

AD-A008 518

SECOND BIRTH--BIOGRAPHY: KALASHNIKOV, M. T.

V. Zhukov

Army Foreign Science and Technology Center
Charlottesville, Virginia

14 June 1974

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE

Best Available Copy



DEPARTMENT OF THE ARMY
U.S. ARMY FOREIGN SCIENCE AND TECHNOLOGY CENTER
220 SEVENTH STREET NE.
CHARLOTTESVILLE, VIRGINIA 22901
TRANSLATION



In Reply Refer to:
ISTC HF 23 0751-74
DIA Task No. 1741801

121116

Date: 6/14/74

ADA008518

ENGLISH TITLE: Second Birth--Biography: Kalashnikov, M. T.

SOURCE: Moscow, Voenizdat. '63, 136 pp. Vtoroye, Poshdeniye

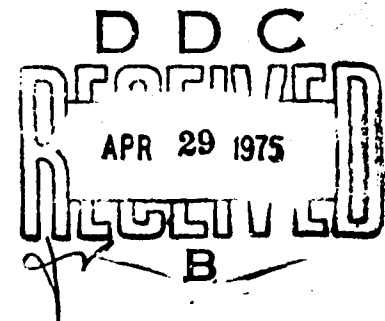
AUTHOR: V. Zhukov

LANGUAGE: Russian

COUNTRY: USSR

REQUESTOR: ADXST-CB Mr. Tomson

TRANSLATOR: Leo Kanner Associates, Redwood City, Calif.
MP



ABSTRACT: Mainly this is a report of events from the life of M.T. Kalashnikov, talented Soviet designer and gunsmith, creator of the AK submachine gun and Hero of Socialist Work. The events and facts in his life are certainly described and the author introduced only insignificant artistic additions and changed the names of people involved.

The author of the book, Major of Engineers Vladimir Nikolayevich Zhukov, was born in 1928 in the city of Dnepropetrovsk into the family of a Red Army commander. In World War II he was a sailor on a maritime ship carrying important cargo. In 1953 he graduated from the Air Force Engineering Academy im. N. Ye. Zhukovskiy. He served in the North in an airforce regiment. At the present time he is working on the editorial staff of the newspaper "Krasnaya Zvezda."

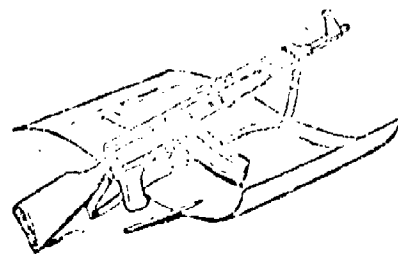
Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. Department of Commerce
Springfield, VA 22151

NOTICE

The contents of this publication have been translated as presented in the original text. No attempt has been made to verify the accuracy of the statements contained herein. This translation is published with a minimum of copy editing and graphic preparation in order to expedite the dissemination of information.

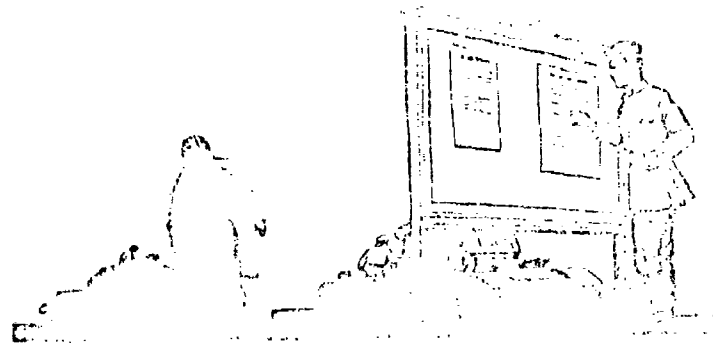
Approved for public release. Distribution unlimited.

NOT EDITED



Hero of Socialist Work

M.T. Kalashnikov



Part One

An Announcement for the District

Work in the tank fleet was in full swing. The sun was at its most scorching and the company commander for the first time in the year decided to strip overalls to the waist. Not yet being sun-tanned, the backs of the troops stood out sharply against the dark green of the tank armor. The machines were polished till they shone. It was hard to believe that only yesterday they had been roughing up the Ukrainian roads with their treads, there had been the tireless rumble of the motors, they had clambered up the slope of the ravines and rushed across the rocky portage in the cool water of full rivers. A tarpaulin cover scrubbed white covered the cannon barrels.

Kalashnikov paused at the entrance to the park and lost himself in admiration of the scene before him. Then his eyes sought a platoon. It was not nearby.

"You decided to get down to work?" he gaily addressed the tank commander, Vederkin.

"You're on duty," said Vederkin surprised.

"They've finished the work, and the master sergeant is on leave."

"There's nothing for you to do here. Everything's in good shape, straightened out first thing."

"They looked at the engine?" asked Kalashnikov and lightly jumped onto the armor. "Is the oil in order?"

"In order."

"Let's wipe the observation slits," a voice was heard from the machine and from the turret rose the curly head of gunner-radio operator Kuchum. "Maybe this will make the slits wide enough for the TT to wiggle through."

"All right, inspect the machine gun," muttered Kalashnikov quietly and looked sternly at Kuchum.

"Don't get fired up, Mikhail," said Vederkin. "A political instructor hung a notice there on the board. Go look at it."

Kalashnikov obediently sprang to the ground and went over to the plywood showcase. There alongside the GTO standard list, stood out an announcement printed on yellow paper concerning an open competition for the creation of a motor-safe life counter for a tank engine. Written in words larger than the others was: "The creation of the counter is of great practical importance."

"Well?" asked Vederkin when Kalashnikov turned back.

"It's not for me."

"Why so sudden. It's better to think it over."

"To build a Monte Cristo or some kind of catapult,--now that's something like," said Kuchum. "Something to shoot."

"Yes, change the record," Kalashnikov cut short his friend. "You're repeating yourself!"

Kuchum disappeared into the tank hatch, but his words now seriously stung

Kalashnikov. The face of the driver-mechanic darkened. He absentmindedly straightened his shirt, which already lay flat to his body.

Two weeks ago when the commander replaced the Nagant revolvers with brand new burnished steel TT pistols, Kalashnikov had thought: but how will it be if they have to be shot from the tank? In the machine there are special slits, but the TT does not fit through them. He thought about every possible way for several days but was unsuccessful. Caustically Kuchum exulted: "Well, comrade driver-mechanic, this is what you get when the shoemaker bakes the pies. It is work for the gunner-radio operators." And then Vederkin the good soul wanted to be comforting--don't worry, be silent, wait for the right work. Really no, nonsense! In order to build a counter one needs knowledge and I shouldn't wonder there are special needs. Soon training will begin with combat firing and long marches over the feather-grass of the steppes. This is work. Well one needs to think about this. Let somebody else make a counter.

"Stop wor-r-rk!" commanded senior lieutenant Malyshev. He stood before the line of tanks, tall, stern and somehow reminding one of a conductor.

The words of the command broke the workers rhythm; it was replaced by the hurried bustle of assembly. The soldiers pulled on the sleeves of their overalls, straightened their garrison caps. The yellow sun cast short swift shadows on the yellow sand.

"Fal-l-l in-n-n!"

It was as if a current flowed through the group of tank men. They came at a run onto the square where their commander stood. Two long ranks extended in a row from Malyshev. Another command and they became four, another-- and the rows swayed and moved forward in a measured way.

"On the horizon the clouds are sullen . ." Kuchum's high tenor drifted over their heads. "Very stern quiet is oblig . . ." the soft bass of Vederkin joined in and when the words of the refrain came, the entire rank burst out: "Three tanks, three jolly friends--a crew for a combat machine."

The wind blew and the young leaves on the trees along the road rustled. And an idea came with a gust of wind into the head of Kalashnikov: "What if one really undertakes the counter?" But something cautioned inside: "But what if it doesn't work out, like the TT?"

Thinking he fell out of step for a second. Kuchum marching in the rank squinted a bright eye at him. Kalashnikov quickly straightened and began to sing again cheerfully.

The red ball of the sun rolled over the roof of the neighboring house. Dark quickly filled the rectangle of open window. The senior lieutenant Malyshev unfastened his sword belt and right behind the door took off his dusty boots. He didn't want to turn on the light. He poured water from the water bottle and sat on the bed. Fatigue seized his limp body.

That morning he had received a letter from Valya. It lay in the right hand pocket of his service shirt. Malyshev thought about the letter all day, but he couldn't bring himself to read it.

Malyshev's son, Serezha, was born a sickly infant; from the moment of his birth there was the odor of medicine in his room. Valya's face was drawn and dark circles lay under her eyes from sleepless nights. Malyshev had cheered his wife as best he could. In the winter the regiment commander had given Malyshev a ten-day leave. Having wrapped up his son warmly, they with Valya went to Kiev. At the Institute of Pediatrics, Malyshev went directly to the head doctor: he was afraid to entrust Serezha's treatment to

insufficiently experienced people. The grey, rosy-cheeked man looked at Malyshev encouragingly through the thick lenses of his glasses: "Bone tuberculosis is very serious. But we will treat him. The boy will stay with us in the Institute. Go home and rest easy. Your son will be in good hands."

Malyshev pressed the soft hand of the doctor. He didn't know whether to believe him or not.

The room with the orange lampshade stood empty. Valya silently embroidered all day. The odor of medicine was almost driven out. Back in the service, Malyshev every day hurriedly looked through the packet of letters which came from the post office. A few lines from the Institute came regularly. In the opinion of the doctor Serezha was getting better; in any case the illness had not progressed. Valya patiently packed up the envelopes with the Kiev postmark in a box on the table.

Finally, he couldn't stand it and sent his wife a train ticket. He would have gone himself but he didn't want to ask for leave in the busy time of preparation for training. To add to this he was named company commander and his work had increased.

For a long time now he'd had no telegram, no letter from Valya. What lay in the envelope in his shirt. What was there? Malyshev tore the paper.

"My dear," ran the violet lines of words in Valya's hurried handwriting, "You don't yet know how happy I am. When I went into the ward, the first thing I heard was Serezhkin's laugh. This was so unusual that I stopped--my legs wouldn't carry me further. Then I saw him. He was sitting on the bed and enthusiastically talking to a neighbor about you and about your tank . . ."

The noise of the trees came through the window. Bright lightning flashed

across the dark sky. "The first storm," thought Malyshev--"the first spring storm." He got up, turned on the light and read the letter. The lump in his throat disappeared and he began to breathe easily.

In the corridor footsteps were heard and the door to the room opened. On the threshold appeared the heavy figure of the company political instructor, Zolotov. His sword belt and his straps of the map case outlined its width and bulges like his beard and chest.

"You're in, commander," Zolotov said without surprise or pleasure. "I see the storm is gathering. There was no point in stripping the machines. The rain would have washed them."

"I know . . . Serezhka is getting better," Malyshev said in a voice that somehow was not his own and smiled. "There is a letter from Valya."

"Congratulations," rumbled Zolotov. "You have suffered deeply. I, knowing, looking at you, thought that it's better to be a bachelor for your whole life." He slapped himself on the leg with the rolled up paper and began to laugh. There was always a paper in his hands--no one in the battalion ever saw Zolotov otherwise. He was always as careful of it as if he had printed it himself.

"Come in, sit down," Malyshev got up from the stool at the table. "Can I give you some tea? I have some cherry brandy."

"Tea then, tea," said Zolotov "I truly just got through eating. But then it doesn't matter."

The teapot began to hiss on the electric plate.

"The doctors are connected with the Medical Administration of the District and have given my son a pass to Yevpatoriya to the RKKA children's sanitorium. I've heard that it's an outstanding institution. Is it possible that he will

be completely cured?"

"He must be cured," Zolotov said in his bass. "The sea, sand, gulls. There, it's sad, I've never been to the sea. It must be good there."

"And I, brother, haven't either," Malyshev poured the tea into the cups. Will you drink the brandy separately or in the tea?"

"Put it in the tea."

Through the window the rumble of thunder rolled. A bright flash lighted the sky. The trees rustled as if they were displeased with the approach of the storm. As soon as the noise stopped one heard the first drops hit the earth, and after them a downpour on the wall and the window.

Zolotov jumped up from the table and laughed loudly:

"Oh to your health! You see, Vclod'ka, how healthy. Hold on earth! The first storm is coming!"

"Yes, brother, to health," quietly repeated Malyshev.

Excited, they turned to the table. The tea with the cherry brandy seemed exceptionally tasty. Zolotov filled a second cup. He drank, sipping loudly. His red hair in the light of the lampshade became completely golden. Malyshev looked at him and thought: a political instructor rarely justifies his own name.¹

"Why do you stare at me?" asked Zolotov.

"And why have you not married? Any girl would marry you."

"The international situation wasn't good," joked Zolotov, but Malyshev reminded him of a serious thought. He placed his cup on the saucer and sighed:

¹Translators note: The name Zolotov means gold.

"The international situation is changed. In the west a flame has been kindled and it may catch us on fire."

"They won't dare," Zolotov said confidently. "We will cut them down," he expressively waved his fist in the air, "in two blows."

"Well in two on in three--it is still unknown. You as a military man must judge reasonably: it is all laid out there on the map."

"And we have the Red Army and the five year plans. You have twice told me that our 'thirty fours' are now the best in the world! Our tank designers are young men,"--Zolotov said animatedly not worrying about the connection between his thoughts. "When I was at another garrison, one came to us. I was pleased: a young man not yet thirty-five in appearance and what things he could do! Today I weighed out the announcerment of the competition and thought about this again. You excuse me, I a political instructor, as it is unsuitable for me to talk thus. But judge for yourself: why the hell play with these toys? In the political section they said: it is important. But on what account? Why without our efficiency experts the necessary instruments are not able to work? Only speak to the designers and in a twinkling the drawings are presented. I understand: training appliances can be made by all the forces in our regiment and it is all the same."

"You exaggerate, however," slowly replied Malyshev. "To listen to you one would think we sat here without electric light. We have more than enough talented people. However they go around not knowing how to use their talents. We need to propose work to them, let them try. Maybe they will succeed. To the point about designers. They have not always been successful, brother. That's true and that's why a competition was announced."

Malyshev stood up and walked around the room. He was silent and then he

added:

"So you are touched by this reasoning. It is unsuitable--the political instructor of the best company in the regiment."

"The theory that political instructors are idealistic people is severely criticised," laughed Zolotov. "But, well, I agree you're right. But who do we have in the company who can cope with this? Vederkin with those under him? They are all pure tank men: give them a machine and as soon as they turn it over they know it. Truly, can it be your pet Kalashnikov . . ."

"Pet?" Malyshev sternly raised his eyebrows.

"Well not a pet, simply an outstanding student."

"Kalashnikov is a smart fellow. You know, before the army he was only a technical secretary to a political section of the railway. I The Turksib [Turkmen-Siberian Railroad] or some such. And here, if you please, is one of the best mechanics we have. And for the competition, who can predict what will happen--we shall see."

Silence fell. Each man was buried in his own thoughts. In the corridor a door banged: someone was going to see his neighbor. From the shaking of the wall itself a loudspeaker turned itself on. Zolotov startled raised his eyes to the black cardboard cone. Malyshev, coming to himself, quietly listened to the words of the loudspeaker.

The latest news was given. Into the room came the sound of words familiar but which had not lost their meaning: "Bombardment," "search for submarines," "fires."

When music began to come from the loudspeaker, Malyshev pulled the plug from the socket.

"Yes, brother, war is coming. A great war," he said and ran his hands

through his hair as if he wished to drive away the anxious thoughts. We soldiers must be tough. On our backs is the country."

"What you say is right."

"If everything is in order," suddenly Malyshev said cheerfully, "You know what I think? In June I'll request leave. For three years it's been in the winter, so possibly the colonel will approve. We go with Valya and take off for Yevpatoriya, to Serezhka. Well you know I have missed him . . ."

"Unfortunately they won't give me leave with y , " Zolotov picked up enthusiastically. "But how they'd look at us in our white trousers. In June. In June it would be hot there I think. It's nothing. The sea, sand and gulls--beautiful!" he got up and put on his hat. "We dream too much. We have to get up early tomorrow. I go, goodbye."

Hours in Combat

During the day in driving exercises Kalashnikov took a minute to check the engine. He didn't like the way the motor ran at high revolutions: the needle of the tachometer began to vibrate and slip over to the left at the same time that the tractive force was normal. He turned the key and tightened the connecting bushing by which the flexible shaft of the tachometer was connected to the distributor shaft.

"Try full gas!" he shouted to Vederkin and squeezed himself over the inspection hatch.

The engine roared. The tank trembled slightly. Two yellow cabbage butterflies which were resting on the hot armor fell like petals to one side--as if the wind had blown them.

"Well?" asked Vederkin.

"It's in order."

It was time for the exercise. Kalashnikov put his hands on the side friction levers. In the headphones he heard Vederkin's command "Forward!" In the open hatch one saw a piece of clay hill tremble, and a broken pine on the edge of the tank-drome drifted to the side.

In front, the palings of the "corridor" showed. Kalashnikov more strongly than usual grasped the right friction lever--so that it wouldn't slip at the beginning of the turn. He pressed on the gas and looked at the rotation indicator. The needle held and stayed in place. More gas and again it moved to the right and stayed. Aha, it was fixed and everything was in order.

Later on everything went smoothly. Not without reason was Kalashnikov considered the best driver. Behind the "corridor" there was still the scarp. The tank at high speed darted to the original line. In the headphones he heard Kuchum's voice: "Know us!" It was cut short by the solid bass voice of re-enlisted man Vederkin: "As you were!" The commander liked the order: it signaled completion of the exercise--one could let one's feelings out.

Kalashnikov's eyes first fell on the tachometer.

Kalashnikov remembered that in the notice posted in the park, they talked about an instrument which could measure the time of operation of the motor under load and during idle time. And what characterizes its operation under various procedures? The number of rotations of the crankshaft. What kind of instrument can measure this; a tachometer. It was all clear. Here then was the idea for a safe-life counter: the principle of it like the tachometer only the task somewhat different. "I'll make the instrument, I must make it," he thought and stopped the tank.

After the clanging and crashing which penetrated even under the tarpaulin helmets, silence pricked their ears. Vederkin unfastened the straps under his chin and took his watch from his pocket. He tapped the cover and a

melodious ringing was heard.

Vederkin never looked at the dial, until the tiny hammers enclosed in the silver case had played the simple melody. In such an instant Vederkin's face wore a beatific smile. In truth, he was thinking of his grandfather from whom he had inherited this watch. His grandfather has received the silver, onion-shaped watch with two flat covers for distinguished marksmanship when he was a private with the 16th Siberian Infantry regiment. Kuchum and Kalashnikov knew Vederkin's habit and therefore waited patiently while the melody finished.

The last hammer sounded and then there was heard:

"What time is it on your silver watch, comrade commander?" Kuchum's teeth sparkled in the gloom.

"Dinner time soon. Thirty-one minutes before two o'clock."

"Do tell, it seems as if the exercise had just begun," smiled Kalashnikov.

"When one works time flies unnoticed--" Vederkin explained instructively.

"In rest time also," again Kuchum's teeth flashed--"Eh, brothers, today is Saturday. Imagine now what a flurry among the girls I know. For half the year I haven't been on duty a single Saturday. 'Sasha, you remember our encounter in the maritime fleet . . . ' " he sang softly.

"Get ready!" said Vederkin unexpectedly sternly. He had spotted the semaphore which the company commander flag had given. "Forward, in the column, single file . . ."

Kalashnikov moved the machine into position and moved it after the machine of the platoon commander. Dust swirled up in front of the hatch opening. Through it, there appeared and disappeared the metallic box on the stern part of the commander's tank. Kalashnikov steadily followed it. Komvzvcd was in

the young driver of the crew, a Siberian. He tried his best, but in spite of the patient tutelage of the lieutenant, a "distinguished" in driving was still far off for him.

The tanks stopped in their places in the park. Dinner was finished. There was an hours rest of the garrison. Kalashnikov sat on the edge of the cot and leaning his elbows on a thin student's notebook drew a diagram of a counter. Everything that he thought about during the exercise and while his hands lay on the friction levers now he turned into a drawing. It was simple, certainly, unlike those he had once seen in the design section but all the same a drawing.

The work didn't go very well. And then the unexpected: a tachometer with a tachometer, the principle of all of this, and how is a tachometer made to transfer information to the needle? Never thought about this before: there are instruments in the shops. There the "god" in that section is a re-enlisted man. Eh, well to go to it!

Kalashnikov stood up from the cot and sat down again. No, it was no use to go--it was the after dinner rest time.

At this minute, as if on command, the man on duty appeared above him.

"Kuchum, what do we have now?" Kalashnikov suddenly asked his friend whose was sleeping serenely in spite of the deafening shouts of the men on duty.

"Self preparation," mumbled Kuchum opening his eyes.

"Well good!"

To get to the shops he had to walk along a poplar lane. As he walked Kalashnikov tore off the sticky leaves. The astringent odor tickled his nose. But he didn't notice as he approached the slate-roofed barracks. This was the instrument shop.

The senior man listened to Kalashnikov's request and silently poked around with his hand in the corner. There stood a large ammunition box. On the oak, smoothly polished boards there still remained the letters and numbers of the brand. As occurs in every shop, in the box were stored worn out instruments, from which one could take parts, bolts, screws, winding wire. All this had remained unchanged for years but sometimes suddenly one needed something that was absolutely necessary. The senior instrument man would sooner part with half the instruments than with this peculiar reserve.

Kalashnikov leaned over the box and looked through its contents for a long time. Finally, on the bottom he saw what he needed, a tachometer. It wasn't new but it was all there.

"You want to build something?" asked the senior man.

Kalashnikov nodded.

"Then take it all. Maybe you can put it on the joiner's bench. Only mind leave it all in order after you. Clear?"

Clear, clear! Of course he would take it all. But this is later. Right now the main thing was to take apart the instrument down to the last screw, to look at what went to what.

Kalashnikov worked with such enthusiasm that he didn't notice the fiery sunset through the small shop window. The master sergeant [starshina], also having spent all this time at the next joiner's bench with some kind of instrument removed his overalls and put them in the cupboard.

"Put all the parts in this box," said the master sergeant. "I see that your work is going to take more than one day."

Kalashnikov was pleased that the master sergeant didn't ask him anything. He didn't want to talk about his work when he'd only begun.

They went together to the courtyard. The master sergeant started to smoke. Comfortably he took a drag on the shag tobacco smoke.

"You're putting together a safe-life counter?"

'What a sly one' thought Kalashnikov and looked at his neighbor. 'He sees everything and he keeps quiet.' He wanted to be angry but remembered how simply and pleasantly the master sergeant had accepted him, and told about his idea. Now, after a detailed explanation of the tachometer device, everything became more clear to him. The master sergeant caught the meaning at once. He even grunted from pleasure when Kalashnikov said that he planned to get rid of the intermediate shaft.

"Sensible," concluded the master sergeant. "You have an understanding of it, fellow. I'll say this: come into the shop whenever you need to and work. No one will disturb you.' He raised his head and looked at the sky overhead. The first stars were twinkling. "I've delayed too long with you. My old woman is waiting for me!" he said gaily and strode off into the darkness.

"And I've delayed too long," thought Kalashnikov. "Can this actually have happened to me." He wiped his hands on a piece of rag and began to walk toward the barracks.

"I asked permission to report to you, comrade political instructor, that you don't understand people at all," Malyshev said gaily joining the battalion adjutant.

"Is this conclusion for certification or is it a temporary opinion?" Zolotov tried to laugh it off.

"As you wish. Do you know what Kalashnikov asked me just now? For permission to test a counter on the tank."

"Really?" said Zolotov surprised. "That's news."

"And he asked it so quietly as if this was the only thing he had ever made in his whole life. Admittedly I don't believe it. I went to the shop. He'd actually built the instrument, on my honor: dial, mechanized clock were all laid out. I saw the colonel going past with his aides. I go up to him. He says this and that."

"And what then?"

"Go ahead, he says. Only don't ruin the machine. And what will happen to the machine? Right now Kalashnikov is attaching his Columbine [sweetheart]. Let's be off, if you please." Malyshev looked at his watch. "I have to be at headquarters at twelve fifteen. But I have time."

As they entered the park they saw someone's feet sticking out of the driver's hatch in a comical fashion. Vederkin was reclining alongside on the tank. His left hand was in the hatch, his face reddened from strain. Apparently he was holding some kind of attachment, helping to mount the instrument.

Malyshev and Zolotov stood for several minutes alongside the tank listening to the one word comments of the workers.

Finally Kalashnikov sprang to the ground. Seeing Malyshev he saluted:

"Comrade senior lieutenant, the instrument is mounted. Do I have permission to test it in operation?"

Malyshev gave permission. He was impatient to see what would happen. He quickly climbed onto the tank and disappeared into the hatch.

Kalashnikov felt the commander breathing on his neck. A chill ran down his spine: he wouldn't embarrass himself.

"What now?" came the voice of Malyshev behind him.

"It registers. See it registers the operation time of the engine with-

out a load," answered Kalashnikov.

"Okay. And how about in operation?"

Not answering, Kasashnikov looked around and engaged the friction clutch.

The crawler belt locks clanged and moved. Moving the machine to one side, Kalashnikov drove it onto the road, running along the ranks of tall peaked poplars. Through the rectangular hatch their trunks covered with pale green skin flashed past one after the other, and the dining hall building danced past waddling from side to side.

Kalashnikov was afraid to look at the instrument. As the last poplar flashed past he braked and sharply turned the machine back.

Again the green trunks flashed by. Finally he decided to look at the arrow. It had changed position. Aha, that means the counter works. But why was the senior lieutenant silent? With this man it is hard to know what he is thinking . . .

Zolotov and Vederkin appeared before them. Kalashnikov stopped the machine. After a few deafening booms, the motor was silent.

Malyshev sprang from the tank first.

"No, you wouldn't beleive what precision! Twelve minutes by my watch and exactly the same on the instrument!" he shouted and turned to Kalashnikov. "Oh young man! Congratulations. From the bottom of my heart."

Kalashnikov, struck dumb looked at the commander. He didn't know what to say. The tension which had been building up for the last hour drained from him and now he only wanted to sit down and be quiet. He remembered how he had fallen out of step when he first thought of the instrument. Now it was done.

Zolotov extended his hand to Kalashnikov:

"May I congratulate you." He turned to Vederkin. "And did this comrade also help?"

"Well," Vederkin began to wave his arms. "I only held the pins. It's not my baby," he laughed satisfied that he'd made a successful pun.

"Well then this is an even greater honor for you Kalashnikov," said Zolotov. "You need to study. Talent should never be buried in the ground."

"But it isn't buried," laughed Malyshev.

"This is only a sample system," said Kalashnikov. "It's possible to make it better."

"Well you see," Malyshev took Zolotov by the elbow. "There's already been conversation about inventions. He's already thinking of this device for a new tank. Right, comrade Kalashnikov?"

Kalashnikov didn't answer anything. He only shook his head and smiled embarrassedly. Vederkin patiently took his watch from his pocket and tapped the cover. A melodious ringing drifted off into the evening air.

Kiev Chestnuts

The train car rocked rhythmically. Kalashnikov stood at the window on the platform. He wanted to be alone and sort out the mixed collection of happenings from the last few days.

After testing the instrument he'd been called in by the commander of the regiment. He asked questions for a long time and then went to the park, looked at the instrument in action, praised it and sent a brief report to the staff commander: "To the command."

Kakashnikov understood that this was only the beginning. Now specialists would look at the instrument.

The train arrived in Kiev in the morning. Command headquarters were not

far from the station. They had to wander for a long time along a corridor with high ceilings in search of the invention section. A short major wearing a pince nez with an exact part in his grey hair looked at the paper which Kalashnikov handed him, for a long time.

"Comrade Miroshnichenko," he said finally, and from another room came a captain with jolly deep blue eyes. "I'm glad to meet you: comrade who brings the safe-life motor counter. In my opinion it's cleverly done, yes?" The major handed the captain the diagram.

The captain looked at the piece of paper and asked:

"There's a working sample?"

Kalashnikov drew the instrument from his suitcase. He felt himself begin to get excited. What if they had one that was a little better?

"Fine fellow, tankman," said the captain. "Fine fellow! It's just what we need." He glanced sideways at the major. "But, Alexander Ivanovich, excuse me there are a few minor details. The gearing is obviously complicated. It would be much simpler to use a worm and pinion." The captain again turned to Kalashnikov: "You took a unit that was already manufactured, yes?"

"From a tachometer," nodded Kalashnikov.

"You see, Alexander Ivanovich. It must be completed."

"Agreed," said the major.

"Direct our comrade to the academy. The basis here is solid. How do you see it, comrade Kalashnikov?"

The major laughed:

"What you are asking. Of course it is agreed. It happens to be useful work."

He dipped the pen and wrote on Kalashnikov's leave orders. Then he

supplied a number in some ornate writing.

"Carry on."

As if in his sleep, Kalashnikov left the staff building. The words of the major: "It happens to be useful work," unc- singly rang like music in his ears. It was necessary to work as hard as possible. And in truth it isn't simple to want and to do it. Now it is even more important work.

The street turned and opened on the boundless distance of the Dneiper. A gust of wind flung up the odor of hot asphalt and flowering chestnuts. A multicolored ball ran into Kalashnikov's feet.

"Uncle soldier, jump aside!" shouted suntanned boys. Kalashnikov laughed and kicked the ball with his boot.

The base at the university seemed actually "solid." Kalashnikov was gripped with enthusiasm when he entered the light rooms of the shops in the morning. The lavish Kiev sun was in the high windows. The long grey workbenches with rows of instrument boxes, it seemed, basked in its rays.

A bell rang and the shop filled with noisy students in dark blue overalls. The instructors taught them about the locksmith shop. The future tank technicians with enthusiasm removed metal stock with files, sanded and polished. Taking time off from his work, Kalashnikov watched the students with interest. He began to want dreadfully to be among them: to go in formation to class, to sit, to bend over notebooks, and in the evenings in boots polished until they shone to stroll along the Kreshchatik. He had hardly been in the army two years, but never had seriously thought about what he would do when the time came to take off the black service shirt with the red piping.

Perhaps it would be good to become a regular tankman? For his whole life. With his experience as a mechanic driver he could get a pretty good

command.

But Kalashnikov did not go on with these thoughts further. Perhaps the feeling of internal freedom seemed pleasant to him where one could select a path in the future. "Let's wait, let's see," he decided in these cases and leaned over the instrument. He constantly was aware of the curious glances of the students and therefore tried to work in such a way that he wouldn't lose face if they compared him with other soldiers.

In the mornings when the courses ended and a resounding silence fell over the shop, Captain Miroshnichenko appeared. He touched the parts which Kalashnikov had made during the day with his strong hands and smacking his lips with his tongue said:

"Not bad, not bad," and sometimes perhaps reasoned: "but this piece should be made a little better. These shapes are not so good."

Kalashnikov got red and hung his head. But on another day he made things especially well so that everything was as it should be. Thus unconsciously he began to perceive the intricate handiwork of the metal worker.

One day Miroshnichenko appeared earlier than usual. He had few words.

"Well my friend, let's choose a machine and crew. We'll test your bandura [Ukrainian musical instrument]."

The captain's fingers for the last time felt the parts of the instrument, and he walked with large steps toward the academy courtyard. Kalashnikov could hardly keep up with him. Outside the buildings, on the edge of a broad vacant area stood an ancient T-26. Painted many times, it did not at all resemble the threatening military machines which stood in the garrison park.

They opened the hatch and began to mount the instrument. The sun beat down unmercifully. He constantly wiped his forehead and neck with his

handkerchief.

The sound of a motor was heard and a dust-covered "Emka" stopped next to the tank. The major with the pince nez jumped out of it, the same man who had received Kalashnikov's papers at headquarters.

Miroshnichenko explained to him that the test would begin in about five minutes. He spoke so eagerly as if he promised to show some kind of unprecedented trick. Because of this Kalashnikov became jolly and calm. Even when he was sitting on the drivers seat and driving the machine to the edge of the vacant area, the smile did not leave his face. The major and the captain sat directly behind the dial-faced instrument.

The test went well. The major jumped from the tank and wiped his pince nez with a dazzling white pocket handkerchief. Miroshnichenko unhurriedly smoked a cigarette. After conferring, they got into the "Emka" and left.

Kalashnikov sat for a long time on the edge of the turret and looked down the curved street beyond the fence where the lorry drove downhill with a rumble. The sun began to set. The shadow from the tank lengthened and began to remind one of a silhouette of a fanciful church.

He remembered the regiment friends and comrades. What were they doing right now? Kuchum, probably was calling a meeting. But Vederkin, surrounded by soldiers, is sitting in a smoking room telling a story about his life . . .

And suddenly he was homesick for his regiment, his home. It is good that the work with the instrument is finished and the end of the mission is only a day off.

Kalashnikov leaped from the turret and began to slowly disconnect the instrument. He heard sounds of lorries on the street. Something rang. The sound of angry words was blown by the wind to Kalashnikov's ears. He raised

his head and saw a student with a staff duty badge on his sleeve.

"Me?" shouted Kalashnikov and for emphasis tapped on his chest with a wrench.

"Come her-r-r-e!"

Kalashnikov sprang to the ground and ran over to where the student stood.

"You are Kalashnikov?" asked the duty man. "There's a telephone call for you. It is from command headquarters. Be quick."

Out of breath, they ran into the duty room in the academy.

"Comrade Kalashnikov?" the voice of the major reached the earpiece weakly from the invention section. "You've finished dismounting the instrument?"

"Finished," Kalashnikov lied unhesitatingly.

"Excellent. Tomorrow morning you must be at headquarters with the instrument. The military command wants to have a conversation with you." The major was silent and then embarrassed added: "Make yourself tidy. Properly."

Kalashnikov replaced the receiver on the black instrument. Military command? Talk with me? About what?

The command reception room was a large oblong room. Its high windows with semicircular transoms looked out on an overgrown maple and acacia garden. The thin rays of the sun penetrated the green curtain with some difficulty and turned gold the copper case on the adjutant's desk. From this case protruded the ends of sharp multi-colored pencils. The adjutant--not as old as the captain--in turn took the pencils and made flowery inscriptions on a piece of paper. He had nothing to do but he knew that the command liked to have him pretend to be busy at all times.

Kalashnikov distrustfully observed the adjutant. Sometime their eyes met and then Kalashnikov quickly transferred his glance to observe the huge rug

which carpeted the parquet floor of the room. Looking at the artfully designed ornaments, his thoughts again turned to the reason for being called here, to this quiet reception room.

It happened because the senior inspector of inventions--this was the duty of the major in the pince nez--had made a report to the command on the results of the competition for which they had received twenty-seven proposals. Of these the most successful was that of Red Army man, Kalashnikov. "An instrument was created by him," read the report, "was tested and deserves a very high evaluation."

The day before yesterday the adjutant being out of paper, had read the report and considered it not very urgent. Therefore he placed it in the third lowest section of the document case.

Unexpectedly the report appeared on the very top of the papers to be signed. The approval on it required not only immediate inclusion of the competition results for the district but also having Kalashnikov report to the commander.

The adjutant was offended. It seemed to him that like a schoolboy he had been exposed as ignorant of elementary subjects. Having done everything that the resolution required he still remained of the same opinion. He didn't try to put an appropriate expression on his face when he looked at the soldier sitting opposite him.

Under the glance of the adjutant Kalashnikov dropped his head even more and stared under the table at the polished boots he was wearing. He was very uneasy that he had put his suitcase too far away from the table. He shifted it and began to worry that the oiled leatherette was disrupting the decorous order of things in the reception room.

Somewhere behind the adjutant's table a buzzer rang. The captain quickly

got up and opened the black oilskin door of the office. From behind the door he heard a loud voice. Kalashnikov could not understand the words but he knew that this meant he was to go to the commander.

Kalashnikov jumped up, straightened his shirt and seizing his suitcase walked across the rug to the door.

"Leave the suitcase," whispered the adjutant.

Kalashnikov mechanically set the suitcase down on the floor and taking a few more steps found himself in a spacious office.

The green trees, not thick as outside the reception room, let the sun's rays flow broadly through the window. Like a winter crop in spring there was an emerald green cloth covering a long table standing obliquely. At the edge of the table jutted out oak carved backs of chairs. Further on crowned by a huge desk set stood another table--a desk. An entire wall to the side of it was covered with a gigantic map. With this as a background stood a broad shouldered man. A dark tan covered his broad cheekbones, his almost square face with a determined chin. This was the commander.

"Comrade general," Kalashnikov stood speaking quickly to report, "Red Army man . . ."

"Kalashnikov," interrupted the commander and smiled. His eyes narrowed, crow's feet ran along their edges. "So. Come in, sit down."

Kalashnikov pulled out one of the chairs with a carved back and sat down. The general paced up and down the room. Apparently he was waiting for someone else.

The door opened and two generals and the major from the invention section came into the room. Judging by everything, the generals were used to often being in the office. Talking in low voices they sat down in the heavy chairs

and made themselves comfortable.

"Comrades," said the commander, "I have invited one of the Red Army men here who has accepted his duties not only in outstanding knowledge of military work but also in creative thinking about military equipment which is entrusted to him. This is Red Army man Kalashnikov, driver mechanic of a tank. He has created an instrument which is original in design which permits with great accuracy controlling the motor safe-life of tank engines. Isn't that right, comrade Kalashnikov?"

"Right, comrade general," Kalashnikov stood up.

"Sit down, sit down. If our industry makes this instrument, it seems to me, we can raise the level of operation of the equipment and truly make a savings in fuel and oil."

"Undoubtedly," one of the generals nodded his head, a tank man judging by his collar tabs. "It is interesting to become familiar with the instrument at close range."

"And here is the inventor himself to talk about it," said the commander and sat down in an armchair at the desk. Sitting down his shoulders seemed even broader.

Kalashnikov began to fidget at the table: how was he going to explain without a diagram, without an instrument? But at this moment the adjutant came into the office unheard. As if carrying a grenade ready to explode, he brought the suitcase.

Kalashnikov joyfully seized it and not thinking put the suitcase right on the emerald cloth. Again, as in the reception room, it seemed to him that the black box with the oiled sides disrupted the sedate beauty of the rugs, the parquet and the high carved chairs. But there was nothing to be

done about it.

None of those present paid any attention to this. Even the major from the invention section embarrassedly took out his pince nez and polished it. They all looked with interest as a large circular box with a dial face appeared on the table, with a long flexible shaft in wire braid and a coupling box.

Kalashnikov unscrewed the cover and revealed the clever design of the gear wheel. Not looking at those sitting around him he began to talk about the construction of the instrument. Only rarely did he turn his head to the commander and looking at a part talk about its use. The commander listened attentively.

The moment came when he had said everything. Kalashnikov stood up, bowed his head and looked at the parts of the instrument lying on the green cloth. With what care he had made each of them, adjusting, fitting them! There in the academy shop they had seemed perfect to him. But now . . . Everything seemed crude. Did factory instruments really look like this? It was astonishing that no one seemed to pay any attention to this.

"Of course everything could be made better," Kalashnikov continued. "This is a hand made version. One could say from scrap metal."

The commander and everyone else present laughed.

"You want it all to look like a gold watch," said the general with the tank collar tabs. "This isn't how it is."

The laughter was friendly and easy. They threw questions at Kalashnikov. Even the major in the pince nez decided to bring up the question of calculating "the expenditure of man hours in preparation." The commander and the others were interested. Answering him, Kalashnikov forgetting himself talked about

how the work had been done in his regiment, and what he thought about, how tankists are trained.

The time passed unnoticed. At the end the commander stood up making one understand that it was time to conclude. He pressed the buzzer knob and again the adjutant appeared unheard in the office.

"Write down on the order," the commander said loudly. "Red Army man Kalashnikov for performing creative initiative is awarded a watch and photographic equipment. Publicize this information to all personnel of the district."

The pencil quickly flew over the pages of the notebook. The full cheeks of the adjutant quivered with stress. When he heard the words "watch and photographic equipment," he stole a glance at Kalashnikov. His former superiority was gone from his glance. "Fine fellow," said the adjutant's glance now.

Kalashnikov understood this and was embarrassed. A bashful blush spread over his face.

"Nikolai Ivanovich," the commander turned to the general with the tank insignia. "I think that we should transmit all of this to the Main Automated Tank Administration, and then on to the factory. Please take care of it."

"To the factory, to the factory," Nikolai Ivanovich began to nod. "But I think the inventor himself should go there."

Kalashnikov was excited. Go there? And what about his company? Training would be soon. Who would sit in his place in the tank? In an instant he had a picture of the early morning in the tank park before going out to the field. The rumble, warming up, the engines with hot oil flowing from the exhaust

pipes. The crews take their places. There fourth from the end is the machine. Dashingly Kuchum jumps into the hatch, unhurriedly but nimbly--Vederkin. And no Kalashnikov . . .

He wanted to explain all of this to the general with the tank insignia, but instead of this he said:

"My assignment ends today."

Again laughter, forgiving and natural, resounded in the room.

"They miss you at the regiment," said the commander. "I understand this. But the instrument is very important. A driver mechanic can be found to take your place, but there is only one author of this instrument. You must go to Moscow and then to the factory."

Kalashnikov quickly began to pack up the instrument. The major in the pince nez helped him. When they were leaving the office, the commander asked:

"How old are you, Comrade Kalashnikov?"

"Twenty three, Comrade general."

"Good. You will have many more successes."

The sun had set, and it was darker in the reception room. At the door stood the adjutant. He saluted Kalashnikov and smiled. The smile came easily from his heart. To the factory, thus to the factory. Is it possible to make a toy from the instrument! And the return to the regiment, especially depends on this: the faster the work is done the faster the return. The factory is not the shop. There, truly everything will be prepared!

The Factory Whistle Blows

Technologist Miron Vasilevich Palin was distinguished from other factory engineers by a shock of greying unruly hair and an unsociable manner. He was constantly quarreling with someone, finding fault with something. But every-

one loved him. Palin had worked at the factory for about twenty years and knew every machine in the mills better than the men who maintained them. He loved his work without thought of himself and threw himself into working on the most complicated and muddled technological processes. Therefore he often had failures, remained at times sitting over drawings after work, but he never gave up. In the section of the head technologist, there was a habit of "giving" Palin the invention proposals from which it was doubtful what one could get. Palin grumbled but always pursued the work to its end.

When from factory administration papers came which laid out along with Kalashnikov's authors design the proposal to prepare for production a counter for safe-life of engines, the chief technologist without even thinking marked it: "Palin. For execution."

A pert secretary put the paper on Palin's drafting table and sang out:

"Miron Vasilevich, here's some more work. With some Edison or other."

Palin was in a bad mood that morning. The rigging on which he'd been working for a whole month was still not ready. Hearing the words directed towards him he threw up his arms and began to shout that he couldn't work that way, that there was a collection of loafers in the shop and no one did any work and never finished what they began. But all the same he picked up the paper and dug into it with a tenacious look through his near sighted eyes.

"Well. A counter. I'd like to see where they will make it!" Having got angry Palin always said "they," as if he himself were not a leading technologist, an authoritative specialist and permanent--at least for many years--member of the factory committee.

The engineers and draftsmen working at neighboring tables laughed. They knew that

the secretary put three papers instead of one down; Palin all the same would see the work to its conclusion and find a way to manufacture the product needed.

Palin was continuing to grumble when on the threshold there appeared a short Red Army man with a black box under his arm.

"Well, I understand that this is Comrade Kalashnikov?" asked Palin noting the guest.

"Yes," answered the soldier and came forward.

Someone at a drafting table giggled:

"Miron Vasilevich knows everything."

"Don't listen to people who are inclined to laugh around here, young man, come here," said Palin and extended his hand to Kalashnikov. "Where are you from?"

"Usually from the Ukraine, but right now from Moscow. They tested this instrument there and have sent me to you now. I only just got directions. Well . . ." he pointed to his box.

Palin wiped his neck with his pocket handkerchief and asked Kalashnikov to show him everything that he had. Kalashnikov opened the box and hurriedly laid out the instrument and packet of drawings on the sloping boards of the table.

"Very well, young man," said Palin, "go for a walk and I will take your work apart. Walk through the shops, look at the production. By yourself without a guide. It's, leasanter; I detest tours."

"Perhaps I could take the instrument apart to show you what goes to what?" Kalashnikov would have asked but Palin interrupted:

"Through my hands have passed mechanisms for astronomical clocks, young

man! Somehow with God's help I will take this apart."

'Ridiculous. He shouts but I'm not afraid,' thought Kalashnikov. Going into the courtyard he turned toward a large building from whose window openings he heard the rumble of machines.

After the semi-darkness of the entrance lobby the shops seemed brilliantly lit. The rays of the mid-day sun fell obliquely on the grey-painted machine, on the pile of stock dumped between them. The workers, mostly men, seemed not to hear the noise of the machines, and watched the rotation of the spindles with concentration.

At the last machine stood a fellow in a blue Russian blouse. A black lock of hair hung down on his forehead. All the time he brushed at his head trying to throw the locks back, but they immediately came forward as if interested in following his clever hands. And his hands were indeed remarkable. They contrived to almost simultaneously turn the support lever, start the machine, apply the sharp knives of the bar gauge to the components and again place the part to start its continuous rotating.

Kalashnikov watched for a long time how under a stream of milk-white emulsion the cutter unwound a curly shaving. Growing by centimeter, from the cutter, the shaving became blue then grew brown. Light smoke curled from under it.

"D and P"--read Kalashnikov on the shining brand on the machine plate. Somewhere he had heard how to decipher these letters: "overtake and surpass."¹ In shops at the depot where he had liked to go they were the same. It was too bad that he didn't know how to work all of the things that he saw now. Like that lathe hand over there who did it so well . . .

The fellow standing at the machine sensed that the soldier was thinking

¹Translator's note: This refers to a political slogan, to "overtake and surpass" capitalism.

about him. He raised his head and gave him a jolly wink:

"Your first time?"

"What?"

"Your first time, I say, at the factory?"

"Yes."

"Don't worry, you'll get it. The first ten years are the hardest, then its easy."

The fellow threw his lock of hair back from his forehead and smiled, showing a row of white teeth. Kalashnikov smiled too. Of course he'd get it. With the instrument it had been the same way: begin and then the work's done. Only ten years, that's too long.

Kalashnikov turned and quickly walked along the passage of the carpentry mill. The broad door led to the stairs. He walked down to the floor below and found himself in another shop. Here the planing and milling machines screeched, whined with ear-splitting noise and spattered shavings.

In the casting section it was quiet to the ears. The earth smelled acrid. Several women shaped the molding boxes. They did this unhurriedly, methodically pounding with tampers on the brown pliant mass. Kalashnikov didn't know where he was at first. Then when through the open door he saw the forge, hanging on a long chain, and the melted metal flowing from it he realized that this was the forge.

He went up to the mold boxes dumped on the floor and sat down on one of them.

"Hey, soldier," he suddenly heard a gay voice, "did you come to get hired? Stand up, let's start."

The loud women's laughter rang out. Kalashnikov raised his head. He hadn't expected anyone to come after him and he was confused. The women

laughed again. He stood up and thinking that they expected an answer said:

"Too late. I'm already hired."

"Too bad! We've needed someone like you for a long time."

The conversation was interrupted by a whistle. The women stopped banging with the tampers. A group of girls fluttered through the door leading into the foundry. They undid bundles and baskets. On the newspaper spread out there appeared bread, cucumbers, bottles of milk.

Kalashnikov thought suddenly: the technologist is waiting for him. He looked at his watch. Almost two hours has passed since Palin had told him to look around the mill!

He left the foundry at a run and wandered among the factory buildings, flower beds and benches filled with resting workers. Finally among the green leaves of the poplars the familiar path to factory administration appeared. From here it wasn't difficult to find the section of the head technologist.

Palin sat alone in an empty hall. His hair was more rumpled than usual. Seeing Kalashnikov, he shouted sternly:

"Where have you been walking? We have to come to an agreement right now: either work or play with the young workers!"

Kalashnikov was struck dumb: he'd been sent off to walk around the factory and he was being abused. And then, play with what workers? He had looked at the machines not at the girls.

Palin brought down a whole avalanche of words on him. And although he first spoke favorably to Kalashnikov his head from the first shook angrily. He liked the design of the counter. He hadn't even expected some tank man or other (he even said "some tank man or other") to produce such an efficient and well thought out functional diagram. But the technological side

of it!

Palin even jumped up from the chair and paced up and down between the tables. He wrung his hands and began to groan as if the thought of the imperfections in the production side of the instrument had made him physically ill.

"Where did you ever see such a bushing fitting? It's okay for a jeweler but for mass production! And your drawings! What have you drawn here, young man? How do you think you're make this worm? By hand, with a file? Remember this the rest of your life: it is possible to put down on paper a superior design for everything. And this invention--is an idea entrusted to a strict technological framework! Technology is the same thing as dimensions for the lines. Iambus, saphibrachs, trochee! Do you understand? How many beautiful ideas go into oblivion because of a disregard for production! And how many primitive things live on because they can be made in tinsmith shops. Technology is the icon before which the inventor must pray! Otherwise it's simply a plan, fellow, taken away from the people of our time for nothing. Do you understand?"

Kalashnikov didn't dare look at Palin. Gradually the ideas behind the words of this disturbing man came to him. Actually he had never expected that even in the rough, contemplating the design of the instrument it would be necessary to think about how it should be manufactured.

But Palin continued to rage:

"But right now it isn't even possible to talk about such production work. You, young man, need to work under a designer. A clear head isn't enough, you could wear out seven pairs of trousers and still not be able to work without a mistake."

He ran over to the cupboard and threw open the shaky glass doors. Having rummaged through packets of drawings tightly tied with string, he first extracted one and then another tattered book.

"Well. Go off and read. As attentively as possible. And in the meantime you will work at the same time. Here, beside me. We'll move the draftsmen somewhere." Palin pulled up a draftsman's stool to his table. "I won't let you loaf!"

Kalashnikov laughed: altogether this fellow Palin was strange. You don't know when he'll joke or when he'll curse.

Kalashnikov liked the table--it was like all the rest in the room. But at this table truly all kinds of things must be resolved. He got up, straightened his shirt and tested the strength of the table. Good!

Surprisingly Palin asked:

"Are you going to start work right now? Be off to the dining room! Only a yogi can think on an empty stomach. And you're an ordinary man." Unexpectedly he smiled and added: "Do you have money?"

"Yes."

"Go to the dining room. It's cheap there and the food's excellent. Be off, be off. I still need to work for a while in quiet."

In the evening Kalashnikov was not able to sort out the complex feelings which had arisen in him after his "introductory" conversation with Palin. On the one hand, he had praised him for the counter, on the other hand he'd called him an ignoramus.

In the spacious room of the factory living quarters where Kalashnikov had his bunk it was quiet. His roommates--two student trainees from Kiev had sprinkled their forelocks with eau de cologne three times and gone off somewhere.

Kalashnikov went to the open window. The jumble of Leningrad roofs extended into the distance. Above them hung a delicate shroud of light blue June sky. On the horizon the blue thinned as if it didn't want to argue with the pale glow shimmering over the city.

"It is good for a student that he should walk along the avenues . . ." thought Kalashnikov. On his way from the station to the factory he hadn't been able to look at the city. However the feeling of delight which comes suddenly as the even facades of houses flash past from a train window had not deserted him yet.

Somewhere a radio played loudly. A deep baritone voice sang penetratingly:

"On the steppe near Kherson--the tall grasses . . ." He remembered Stryy. Summer training must have already begun. It's hot in the tanks, but the fellows laugh. Training is interesting, almost like a movie for three tankmen. Companies along the deep ravine in a forced march daringly take in the rear "of the blue" and the concentration umpires from the district staff calculate the "enemy" loss.

And in the evening Kuchum plays on the guitar and sings of heartbreaking romances from the repertoire of Isabella Yurevaya. Kalashnikov didn't much like such songs but he loved it when Kuchum sang. He felt choked up. He began to be a little sad and remembered fall in Alma-Ata, the city where he had begun his independent life . . .

He turned from the window and carefully looked the room over as if evaluating its suitability for studies: three iron beds, covered with grey woolen blankets, a night table with water bottles and a large table in the middle. Then he took a fairly thick book from his suitcase and put it on the bed. "The Technology of Metals," he read the words on the

cover. "A Handbook for Institutions of Higher Learning and Technical Colleges."

The last words excited him. Surely Palin was confused. He had finished tenth grade, but this was for institutions of higher learning. However, the technologist was serious, truly, this was done with thought. He calmed himself and began to read the introduction. For colleges, for colleges!

Light Nights

Zolotov led the political information class. He stood in front of a map of Europe and emphasized his words by slapping his leg with a rolled up newspaper. The map was hung on a branch of a thick oak. Around it, on the grass were the soldiers. They were in overalls--training was in full swing and these lectures by the political instructor were limited to only a short time after dinner.

The hot early afternoon sun cast oblique shadows. The faces of the soldiers were suntanned. A hint of seriousness touched their faces each time that the political instructor began to discuss the conflagration of war which was continuing in Europe. He tried to talk calmly, but he wasn't able to. He spoke of the battles in the burning African deserts and his listeners thought they could feel the sand in their teeth. He spoke of the underwater battle on the ocean expanses and even the Siberians who had never seen the sea felt the cold of the ocean depths in which they searched for wrecks of sunken ships.

"From all of this it seems, comrades that we soldiers and commanders in the Red Army must now all the time be on the alert . . ."

Malyshev came out of the woods and into the clearing and stopped. He crossed his arms on his chest and listened to Zolotov's words.

" . . . We have a number of outstanding men in combat and political train-

ing but it is necessary to increase this more and more. Some soldiers think that they can prove themselves only abroad or in actual battle. You, Comrade Skripnichenko, what do you think, for example. Is that right, Skripnichenko?"

From the ranks rose the large figure of a tankman. Embarrassed he hung his close-cropped head and growled out:

"I said that stupidly. Angry that the machine was driven into the hole. To drag it out from there would have been even worse . . ."

"Why? With a shell it could have been knocked up onto the hill," Kuchum said merrily.

Laughter broke out in the ranks. Skripnichenko hung his head. Spots of red appeared on his cheekbones. Malyshev with a smile looked at the soldier waiting to see how all this would finish.

"There will be no more of this," Skripnichenko said loudly. "Give me your word, comrade political instructor that it will not be. Let's see which crew will get the best marks--ours or witty Kuchum's."

"Do you accept the challenge, comrade Vederkin?" asked Zolotov. "Kuchum is from your crew."

"We accept," the voices of Vederkin and Kuchum were heard simultaneously.

"Incidentally, comrades, speaking of Vederkin's crew,"--said Zolotov. "Their driver mechanic Kalashnikov as you know is on assignment to Leningrad. I got a letter from him. It is addressed to the whole company. Shall I read it?"

A rumble of approval answered the question. 'Zolotov comes out well,' thought Malyshev. He remembered how the political instructor first came to the company. Months had passed where he couldn't find a place, didn't know what to put his hand to. Malyshev invited him home. At first they sat silently on the sofa and smoked. Malyshev began to talk about how he had

begun to command the platoon. At times he'd worried a great deal: what he didn't know, how to straighten out a slack soldier, then suddenly in firing, the crew got such good results that even the guards were surprised.

Zolotov listened attentively. Then suddenly he said: "I feel the same way. And he began, began to talk,--apparently, painfully. Malyshev, where needed, agreed talked about how he would have acted in this case. They hadn't noticed how the window darkened. They looked at the clock: one o'clock.

Their friendship grew. Malyshev felt that in his work an assistant had come: without fuss, without showing off he helped in everything that was important--in educating people. And when Malyshev's company was commended, he always repeated: Zolotov, Zolotov--this is his work. Those who knew Senior Lieutenant Malyshev felt that he was right in his words.

The wind blew and the map hanging on the oak tree fluttered. The political instructor turned, straightened it and began to read Kalashnikov's letter:

"Dear comrades in the company! I am far from you in the famous city of Lenin, but my heart is with you in the ranks. You are now having your busiest time and each of you needs to do his utmost. I hope your efforts will be sufficient so that the honor of our company will be ever greater.

"A little about myself. The work on the instrument is moving. You know that I didn't expect to encounter so many difficulties. But it isn't surprising: it's one thing to build a mechanism, another to prepare it for mass production. Here, at the factory there are remarkable people. They help me willingly, especially technologist Miron Vasilevich Palin and many others. I have talked about how we live and study and my factory comrades have asked me to send you their warmest proletarian wishes.

"Light nights have begun here now. Along with work I can study now and this is very opportune. When things are difficult I imagine that I am driving a tank into battle, in which it's impossible not to win. Right now I've just finished working drawings and soon will prepare the test model."

Zolotov didn't have time to read the signature on the letter, how the blond private first class had been promoted and quickly said in his soft southern drawl:

"Is there a proposal to write an answer. And not just to Kalashnikov, but to the factory workers. We could all do it together. Send a copy of this letter to the Komsomol Bureau."

"Right," Kuchum picked up on this. "First we'll write the letter, and then agree on the delegation to him. Then they will see how we carry out our duties."

The soldiers became noisy. Order was restored by the words of the company Komsomol Bureau secretary. He became agitated and began to talk even stuttering:

"Here a v-v-very good proposal has been made. Today we will consider it, write the letter and if comrade c-c-commander of the company agrees," the secretary turned his head toward Malyshev, "tomorrow we'll g-g-gather in open meeting to discuss the letter."

Malyshev said loudly.

"I have nothing against it. Only I suggest writing it briefly and discussing it quickly."

Zolotov decided to disperse. The soldiers got up from the ground, and took their packs of cigarette papers and coarse tobacco pouches out of their pockets. Blue smoke drifted over the clearing.

Having put the map in the tube, Zolotov walked over to Malyshev. They slowly walked along a path skirting the tank stands. Malyshev was the first to break the silence.

"I just received something from the battalion commander," he stopped and shielding the flame of the match with his palms lit up. "From division staff the order has come: suspend training and send the driver mechanics to the factory. They will receive new machines--'thirty fours'."

"Really?"

"They're ordered to gather today."

"Well fine, 'thirty fours'! Beauties but not machines. I've seen them in military tests. But listen what's all the rush? Training's interrupted . . . Maybe things are not so quiet abroad?"

Malyshev took a deep drag of cigarette smoke.

"I don't know. It may be. The order was urgent, we don't even eat at home. I asked you, you with the master sergeant to take the rear problems, and I will go to the engineer, I know that they will not return the machines immediately." Malyshev took a few steps forward and then stopped. "Oh yes, and congratulations. Today you turned everything around very well with that letter of Kalashnikov's. Good fellow!"

Zolotov pressed the rolled up map, turning it like a screw and rapped out gaily:

"I serve the working people, comrade commander!"

"Well okay," smiled Malyshev. "Get going, time flies."

Usually Kalashnikov listened to the evening hubbub in the hall. He liked to observe how ordinary worries came back to people; how an important

engineer was transformed into a playgoer and collector, and an elderly drafts-woman--into a worried housewife with a very large and apparently very loving family. Unexpectedly Kalashnikov found out many things about people they would never have talked about.

But today he impatiently interrupted Palin and was the first to leave the hall. He went into the passage into the endless flow of people leaving in groups from the shops. He already had many acquaintances and had to answer their greetings. Inconspicuously he went out to the streetcar stop and jumped onto a car.

The grey facades of the houses slipped past the windows. A weak reflection of dusk lay on the glass windows. It seemed strange none of the houses were lighted electrically; it was hard to believe that the warm June twilight which enveloped the city would not change to the darkness of night.

Kalashnikov got off at the Liteynyy Bridge. The streetcar tinkled melodiously and disappeared beyond the gates. In front of him opened the expanse of the Neva. Along the parapet couples strolled. The faces of the fellows and girls were quiet and thoughtful. The whistle of a barge rolled over the water--as if it complained that it had to pull the dark line of barges on such a quiet summer evening when everyone else walked and enjoyed the sunset.

Kalashnikov sat down on a granite rock and watched the tugboat in the blue twilight for a long time.

Incomprehensible discontent did not leave Kalashnikov. He had sat down to figure out where he would go from here and to sort out remembrances of what had happened in the preceding days.

"Look, it's out neighbor!" he heard behind him.

Kalashnikov turned and saw the students--his neighbors in the hostel room. They unceremoniously sat down in a row and began to complain about someone named Galochok for whom they had uselessly waited a whole hour under the Arch of Main Headquarters. Having finally decided that Galochok preferred the company of some sailor with his peaked sailor hat pushed down over his forehead to theirs, the students became quiet and even began to look at the dark waters of the Neva in front of them.

A white steamship sailed by. It came from coastal waters. The green light on board lit in spite of the light night, threw a line of light on the water. Quiet on the shore, one could clearly hear the noise from the stern of the ship, foamy with the strong blows of the screw.

Igor, a long-legged fellow in large horn-rimmed glasses which slipped down on his nose pushed them up higher with his forefinger and asked:

"Why are you so thoughtful tonight, Mikhail? And you're not sitting in front of your books at home."

Kalashnikov didn't answer for a long time. He picked up a stone which was lying near his feet and threw it far into the water.

"I'm making a preventive inspection as we call it in the regiment. I am sorting out my thoughts and actions," he turned and looked at the students. They listened attentively. "Today the technoligist was bragging about me. And I thought: what's the point? Soon I will return to the regiment and again sit with my hand on the clutch lever. Then what will happen to all the engineering wisdom I have learned here?"

"But you've already been in the service for sometime?" asked the second student, Boris.

"A little more than a year."

Igor pushed at the frame of his glasses with his finger.

"Well, it's remarkable. You need to go right away to an institute. If I were you, the Kiev Polytechnical Institute, I tell you that it's a remarkable learning institution. You, like us are one of those former students whose outdone himself. With practical experience such as you have . . ."

"Of course," Boris supported him. "For sure you shouldn't stand still. There will be other things to work on. Today science comes in handy."

Kalashnikov was silent. Certainly the students hadn't said anything new: he'd already thought of this. But because they had spoken truly about schooling, he had become shy in his own thoughts. It was unfortunate that he hadn't finished high school. But then perhaps he could pass the exams without attending lectures . . .

"Well?" asked Igor.

"I'm thinking," answered Kalashnikov.

They stood up and slowly walked along the embankment. At the corner Kalashnikov stopped and said that he had to go to the post office. The students got onto the streetcar and he walked along the Liteynyy, looking at the stern facades of the houses. Walking past the post office section, he laughed: he didn't need anything at the post office. He had only wanted to be alone to think about the future.

He thought and walked along the streets and alleys, not choosing his route. Only he went so that between the houses all the time one could see the yellow band of twilight.

Friends Meet

"Hey, tankman, you're sleeping the day away!"

Sleep ended suddenly. Kalashnikov opened his eyes and looked around the room.

Reflections of sunbeams danced in the water in the water bottle. The students' beds were neatly made, and they were sitting at the table drinking tea and eating slices of fresh sitnik bread with good appetite. The sausage gave off a sweet garlicky smell in the air.

"Join us," growled Igor. "We're in a hurry. It's Sunday, June outside and we've finished practice. We're going to the island. Have you ever been to the island?"

"No, I haven't," answered Kalashnikov and looked at his watch. It was eight-thirty.

Boris, Igor's comrade, finished his tea and started to crawl under the bed. Having retrieved white canvas shoes from there he looked at them carefully and went out into the corridor. Igor got up from the table and began to smooth down his shaggy hair looking in a pocket mirror.

"Where did I get such hair, creation!" he said with annoyance. "Everyone else has hair but I have some kind of bristles. Sticks out in all directions. And I have to wear glasses besides."

"Apparently you're still acquainted with some girls," smiled Kalashnikov.

"Yes, we're acquainted," said Igor with a sigh. "Only not enough. All the same the girls don't look at me. Now Boris--his appearance! Only you have to drag the words out of him."

"Well you're a good pair, like a team."

"So it goes," sighed Igor. "You know, the only thing that comforts me is that the girls we know take us to cozy places in the city which only local inhabitants know. Here they talk about: architecture--horrible music. And

what happens? We argue. Zoya says: symphony and classical without fail. Handel, Bach, Mozart. She even says that when she sees the admiralty she can hear the sounds of an organ. It seems to me elegant music would be a waltz fantasy or a waltz from Tchaikovsky's Fifth. You know, ta, ta-ta-ta--that's the embankment of the Neva. Or Chopin: tum-ta-ra-ra--for the Nevsky. . ."

The door opened and Boris came into the room. His shoes were thickly coated with tooth powder. He stood like a sailor in a storm with his legs spread apart.

"It's warmed up," Boris said sternly.

"I'm coming, I'm coming," Igor thought suddenly. "Mikhail, can you go with us? Or is it the books again?"

"Don't tempt him, don't tempt the man," Boris said in a melancholy way and put his hand on the doorknob.

"So long," said Igor. He turned at the door:

"Eat breakfast. We left your share."

The room became quiet. Kalashnikov got up from the bed and went over to the window. Now it was clear: it would be the institute and everything else. Like these Kiev youngsters.

Kalashnikov thought: music . . . he loved to listen to it. Many kinds. And the sound of Kuchum's guitar, the songs of girls, returning on the road from the field in the hot sun and that incomprehensible but disturbing feel- that the radio produced. He remembered well some things of Tchaikovsky, especially "The Time of Year." Maybe I could sing it now, how does it go?

After breakfast he laid out his drawings and books.

The hands of the clock moved slowly across the dial. Then it was as if they lurched forward. It was only half-past nine, and already half-past

eleven.

Children's cries wafted through the window which opened on the courtyard. Unexpectedly they were silent. The sounds of a piano were heard. Someone apparently not too experienced was playing scales. The sounds fell on the quiet like raindrops. Kalashnikov raised his head and listened: "the music again. All morning today!" He again labored with his calculations. Today instead of doing his drafting he would have liked to sketch. Yes, even on Whatman paper. But tomorrow Palin would be at the table--let us just look. . .

He rushed to the night table and feverishly rummaged through its contents. There was no fresh paper. He remembered that not far away on the corner he had seen a sign for an office supply shop. If only they have drawing paper? All the same let's go look.

Kalashnikov put on his shirt, tightened his belt and went out into the corridor. The hostel was empty. The soles on his boots made a hollow sound on the floor. After the cool semi-darkness of the stairs the sun on the street seemed especially bright. Kalashnikov walked quickly, trying not to step on the cracks between the slabs of the sidewalk. This reminded him of his childhood. When he was in school the kids played this in class . . .

The office supply store was actually right where he had thought. Two small windows at the side of the entrance were stuffed with pile of multi-colored pencils, green loose leaf and solid notebooks with the inscription: "Work."

"Do you have drawing paper?" Kalashnikov asked loudly, looking at the shelves behind the counter.

The young salesgirl turned her head toward him but didn't answer.

"Whatman, I say, do you have it?" he asked again.

The salesgirl was silent. The skin on her thin, almost childlike face grew red, her cheeks swelled. It was just what a person does just before he is going to cry. Kalashnikov was startled. His eyes met the girl's eyes and suddenly she burst into tears.

"Has someone offended you?" Kalashnikov asked anxiously and having gone to the other side of the counter grasped the girl by the elbow.

"War," sobbingly the girl said.

"What war? You what?"

"Really, you haven't heard? Hitler has started war against us."

"What are you saying? What war?"

"Sir, really you haven't heard anything?"

Kalashnikov, struck dumb, looked at the salesgirl. The news was so unexpected that he simply could not get it into his head. How many times he had talked with his comrades about war, how many times there had been fiery arguments about whether there would be war or not; he even sat more than once in his tank victoriously thundering through the rumble of battle. But never had he really believed that war would happen and here it was in a quiet little office supply store on a side street in Leningrad, a threat to his way of life and strange here with the tears of a girl in a blue smock among notebooks, paperweights and bottles of violet colored ink.

The train gathered speed. Kalashnikov lay on the upper bunk wrapped in an overcoat. From above a piece of the window was visible and the narrow railway car table covered with cups of unfinished tea.

From the window there appeared and swept past birch trees dishevelled by the wind. The white engine steam clung to the bushes.

Below voices were heard. An elderly woman and a slim student from Bryansk were talking softly. They spoke in whispers as if afraid to disturb the two airforce lieutenants sleeping on their bunks.

"I have dreamed of being in Leningrad a long time and succeeded in spending one day there," said the student. "Uncle stayed but I left when war was declared. Mama will be distressed."

"You did the right thing." answered the woman, "I pine away for my daughter. Her father's at work all day. And now . . ."

"I only just had time to pass by the Hermitage. What beauty, what beauty! They won't bomb it, will they?"

Having heard the word "Hermitage," Kalashnikov thought, that being carried away with his work he had never seen anything in Leningrad. His memory held only the straight corridors of streets, the silver expanse of the Neva and lights of the steamship from the Liteyny Bridge. But besides, it seemed to him that he had lived forever in that city of light nights and remarkable people like Miron Vasilevich Palin.

"A special city," Kalashnikov said to himself. "With a soul,"

H. remembered his farewell to Palin.

"I wish you success in combat Comrade Kalashnikov. If you understand the tank as well as you understand your instrument I won't be worried."

Kalashnikov pressed the soft hand of the head technologist and replied:

"Good-by, Miron Vasilevich. Thank you for everything."

"Good-by, dear friend. Fight well. Don't ever give up faith in the strength of those who remain behind. We will finish your instrument."

Palin raised his arms and embraced his student. They kissed briefly as men, like father and son . . .

Kalashnikov closed his eyes tight as if he wanted to fix his memories firmly and again opened his eyes. He still felt disturbed: in a communique which he'd heard on the radio he'd learned that the city was already captured by the enemy or overrun by soldiers. This means his group is fighting. How will he find it?

There was a roar of thunder and on the roof of the railway cars a flood of rain came down. Kalashnikov dreamed. It seemed to him that his service was finished and he had returned home to his native town of Kurya. It was easy to walk: the streets in the village were broad--the space of the Altay steppe is not crowded. It was easy to breathe. The grassy, fragrant air was flavored with the bitter smoke from the chimneys, the sun's rays were sweetly warm. He turned into a lane and met his family. Everyone was there: mother, brothers, sisters . . .

The bright rays of light hit his eyes and bounced off the ceiling. Kalashnikov not remembering where he was turned his head trying to get back to sleep. Below someone in a bass voice said:

"Document check."

Two soldiers in overcoats with raspberry-colored insignia efficiently looked through leave papers and passports of passengers. An elderly conductor helped them waking up the sleepers.

When the patrol got to the next sleeping compartment Kalashnikov asked the conductor:

"Where are we?"

"In Kharkov, dear fellow, we're going around. See there aren't any buildings through the window. It's a village."

"It's dark out the window. You can't see any kind of buildings, father,"

said the flyer who was lying on the bunk opposite.

"Well, you notice the lights, there must be more before a large city."

"There are no lights--light camouflage," said the other flyer the one who was lying on the lower bunk.

"Yes really," the conductor recalled sternly. "Now everything is different. War."

The little cups on the table trembled and moved--the train was stopping. Through the window there appeared weakly-lighted lantern lights on a platform covered with an awning. Most of the people on it acted as if the train were bringing some kind of a celebrity.

Kalashnikov left the car. The people on the platform seemed almost entirely military. With their belongings tied up in bundles the soldiers smoked coarse tobacco incessantly. A soldier played the harmonica and the listeners laughed. An elderly man in a new service shirt with a rolled overcoat so clumsily placed on his shoulder that he couldn't keep his head straight, asked:

"Is this Moscow? Do we go further?"

"We go further," answered Kalashnikov and pushed through the crowd to the other side of the platform.

The first line of the route was free. The storm which had hit the train on route had been here--from the oil-soaked ties dampness rose and the acrid smell of kerosene.

Against a background of brightening sky some military men were visible. Tanks stood on open platforms. Kalashnikov was drawn to them. He sprang from rail to rail thinking about those who were among them. Heading toward the troop train with the tanks, Kalashnikov vaguely hoped that perhaps some

of the unknown youngsters would know someone in his regiment.

The tanks were new T-34's. A year ago they had been supplied to troops. He'd heard that they were the best in the world. Kalashnikov remembered how envious he and the others in his company had been when a neighboring regiment had received "thirty fours". It was spring. They had comforted themselves in the knowledge that in the fall they would be sitting on the new machines. "They didn't get them, thought Kalashnikov--went into battle in the old ones. But anyway they can fire."

A soldier stood on the edge of the platform in a tank helmet. He walked around a tank, testing the stress on the ropes which held the machine to the platform.

"Hey, listen!" shouted Kalashnikov.

"Who's there?" the soldier replied looking into the darkness. "Show yourself!"

"I'm one of yours. What unit are you?"

"Who wants to know!"

"Give me a hint, if you like . . ."

"On my mother's honor! It's Kalashnikov," suddenly the answer came with joy. "Mishka, is it you?"

The soldier sprang to the ground and hugged Kalashnikov. He couldn't believe that it was Vederkin who stood before him, his commander, his dear comrade from the regiment. This meant that he'd already reached home, on his own: he must pull off his overcoat and suitcase from the other train and not be tormented with any more doubts. It was simply a miracle!

And that Vederkin made a fuss:

"We imagined various things about you. We thought we wouldn't meet you

again. Comrade senior lieutenant, look who's here!" he shouted to another who was turning toward the platform. "Kalashnikov!"

From behind the tank appeared the tall figure of Malyshev.

"Truly--Kalashnikov! What are you doing here?"

"I was going home, comrade senior lieutenant, and unexpectedly met you."

"Home is no longer," Malyshev said quietly. "The Germans are there. We had just gone to the factory to get the new machines. Now we will have to form up anew."

A silence fell.

"And our company is all here?" asked Kalashnikov.

"Only those of the company who went for the machines. Only the mechanic drivers. And Vederkin took your place."

"And Kuchum?"

"He's here," laughed Vederkin. "You won't know him. He sticks like a young fir cone."

"Yes," said Malyshev. "All your crew is together. Just like in the song: 'Three tankmen, three jolly friends . . .' The new machine there will be a fourth. Get your things from the railway car, Comrade Kalashnikov. It's amazing that we could meet here on the road."

"Push," Vederkin nudged his elbow.

The engine whistle was heard on the platform. Kalashnikov turned and ran toward the station side.

In front of him he heard the clank and clang of the railway car wheels, gathering speed. And then the last car thundered and disappeared leaving silence behind.

Kalashnikov stood there.

"Ah, you! You should have run faster," came the voice of Vederkin.

"Now you'll feel the wind in the field."

"My suitcase was there and an almost new overcoat."

"Ah, my sorrow too! Where did you find an overcoat? Let's go to the others in the car. Tell me, how did you fare in Leningrad?"

Part Two

The Main Thing--To Stand

"Hello, dear son. I send greetings to you far from us on the front lines. How are you whipping the enemy there? . . ."

Kalashnikov sat down hurriedly in the dugout and turning toward the small window read his mother's letter. It had arrived unexpectedly along with a letter from his sister. There was almost no mail. For a whole month the battalion had fought not knowing where: not in the rear and not in the front. Endless marches, turning movements, short but fierce battles. There were the letters stamped so many times--

Rain hit the window of the dugout. The water came through a crack and ran down the earth wall below. The forest whistled tonelessly. The rain the last few days had soaked it through, and it had lost its fall look. The trees looking like large ruffled birds resignedly shed a storm of wrinkled leaves on the ground.

Kalashnikov turned his glance from the window and again reread the uneven lines. After the traditional regards and greetings came a long description of domestic affairs. His mother wrote that the house was in order, the potatoes stored. It is good that the roof is repaired . . .

The roof . . . Kalashnikov closed his eyes. How many beautiful hours he had spent as a child there! There was a tower from which it seemed one could see the whole miraculous world which lay beyond the Altay steppe; filled with shavings from the shop in which they were born, everything like now, tractors or machinery thundering so that in tens of courtyards chickens flew up onto the sheds from fright. "Yes, it's good that the roof is repaired. It probably wouldn't have been easy. Well, compliments from all the women in

the letters. That means there are no men left in the village, they fight . . ."

A piece of tarp which substituted for the dugout door was raised. Someone shouted:

"Hey, commander, wake the boys, and go quickly to Ovsyannikov. . . Let's go."

Kalashnikov didn't understand at once that they called him. Not long ago he'd been a driver mechanic, and he wasn't yet used to his new title of tank commander. Malyshev had been promoted. And the new platoon commander was Ovsyannikov. He was from the tank school, he'd been a teacher. He was young and serious. And he'd showed up well in battles.

Yes, it was necessary to hurry. Kalashnikov jumped to his feet and began to shake the sleeping men.

"Well, wake up! Listen, Kuchum we have to fight. Get up, comrades. Let's go, let's go!"

When the soldiers began to get up, Kalashnikov left the dugout. Somewhere to the right, beyond the forest came the thunder of shooting. Behind him another, a third. Judging by the sounds, it was heavy artillery.

"Now they've begun on the right flank," thought Kalashnikov and ran toward the tank. Other tankmen were running. Everyone understood that the artillery fire boded bad news.

On the run Kalashnikov noticed Malyshev. He had lost his robust look in the last week, and his eyes glistened over emaciated cheeks. He had a head wound. The wound wasn't too bad but Malyshev couldn't wear a tank helmet. Instead of a helmet on his head over the bandages he wore a large size Red Army cap. Soaked from the rain it was almost black.

Hurriedly Ovsyannikov and still another platoon commander came up to Malyshev. Malyshev listened quietly to them and said something. The platoon

commanders went off to carry out their duties and he went on to his own tank, from which dark blue smoke was already impatiently streaming out the exhaust.

Ovsyannikov emerged again from here.

"Kalashnikov," he said breathlessly, "it's the same old problem as this morning. The Germans are on the right flank again. Stay with me in any case. Is that clear?"

The tanks, moving through pits and bumps crawled over the ravine and broken bushes, and pulled up at the edge of the forest.

They stopped there where they'd been this morning when the Nazis had begun fierce attacks on the right flank of the defense line of the regiment to which the tank battalion was attached. The ground around them was covered with scars from the treads. Through the trees in the field covered with shell holes the long tracks extended. This morning the battalion had mounted a counterattack. It was short, had succeeded in cutting off the German infantry quickly and caught them in crossfire from machine guns.

"What are the fascists trying now?" thought Kalashnikov and settled himself more comfortably on the seat.

In front, more to the right, where the tanks stood a hill rose. Spotted with shell holes, it reminded one of the surface of the moon. Kalashnikov knew: on the hill was a company of infantrymen who'd been holding it for more than a week through some kind of miracle. This stiff defense of the company had confused all of the German plans.

The intermittent fire of machine guns mixed with the heavy platoon shell bursts. The attack began. Kalashnikov saw that the fascist tanks were tumbling and crawling along at the foot of the hill. He counted six then two more

appeared. Between the tanks ran soldiers in helmets carrying automatic weapons.

Our artillery, silent up until then, mounted an attack. The shells came close but not one of them hit the target. The machines with swastikas on their sides climbed higher and higher.

Kuchum who was sitting on the tank near the mechanic's hatch became agitated:

"Why are we sitting here? They will take the hill!"

Kalashnikov looked forward and having found Malyshev's tank said to himself:

"Okay, quiet. You're not the commander."

But waiting was intolerable for him. The artillery fire stopped. But on the hill the battle began and the artillerymen, apparently, were afraid of killing their own men.

On the left, a rocket exploded over the forest. After a second Malyshev's tank broke away. Behind him came others.

"Let's go!" shouted Kalashnikov to the driver and closed the hatch cover.

At full speed the "thirty fours" raced toward the hill. Clangs, rumbles and howls flowed together all around them. The machines were already half way when enemy artillery volleys opened on them. The tanks quivered from the powerful explosions but kept on going ahead. Malyshev successfully led the company to the rear of the German machines. There they crossed behind the reverse slope of the hill and didn't see what was going on behind. The Nazi artillery was quiet at this time. It too was afraid of hitting its own.

Scattering the enemy infantry with machine gun fire, "the thirty fours" rushed up the hill. The German soldiers who were miraculously still alive ran off. Having finished with the infantry, Malyshev's men struck at the

tanks. Drawing together in a line, they fired on the German machines.

Kalashnikov curtly gave commands to the gunner, and shell after shell was dispatched. Kalashnikov didn't know whether they fell on one of the burning tanks. He very much hoped so. He intended to continue firing on the departing Nazis but realized that the distance was too great. Kuchum shouted something. Not stopping his work, Kalashnikov looked around. Ovsyannikov's tank had turned sharply back. Lumps of earth flew from under the polished treads.

An explosion hit the ranks. The driver turned the machine and Kalashnikov saw in his periscope new German tanks. Apparently this was the reserve. The Nazis opened fire from position. One of the "thirty fours" would have met it head on, but Malyshev's tank broke away so as to cross its line. He masterfully required all to follow him.

"Malyshev is leading behind the hill," Kalashnikov surmised in a flash. "Of course, of course it's necessary, otherwise everyone will be killed. That will cost us our place, of course, now the German artillery will attack . . ." One of the other machines rolled behind the hill.

Infantry ran toward the tank. Making use of the success of Malyshev's company, they again hurriedly secured the hill.

Malyshev had not just led the company out of fire. Having gone around the hill, he led his tanks to the flank of the German machines. Not expecting such a maneuver, their crews faltered and began to retreat, exposing the infantry behind the tanks.

Malyshev's tank going forward, reduced speed: to be separated further from its own defense was dangerous. The enemy was firing with machine guns and cannon from a close distance.

A heavy blow unexpectedly shook the commander's machine. It stopped, as if it had hit an invisible barrier. At this moment Kalashnikov noticed it. Feverishly he considered what to attack.

Still another shell hit Malyshev's tank. The stern part quivered and jumped; from the motor hatch rose a grey column of smoke.

"They're on fire, the dirty swine, they've set fire to our commander!" shouted Kalashnikov, feeling his hands grow cold. "Let's go fast! let's go help!" he shouted to the driver. He couldn't understand why the hot tank moved so slowly. Finally he understood: Malyshev's tank had moved forward had continued to fight. It was not very far from it to the closest German tank. The wind was blowing off a smoky plume of flames, but more and more strongly it enveloped the tank. After an instant the hot machine burst into a huge fire, moving unreally along the field and colliding with the German tank. The sound of the explosion rent the air. Malyshev and his crew were gone.

Kalashnikov felt the collar of his overalls. He felt he was going to suffocate. Quickly he gave command to fire at one of the retreating German tanks. The loader reloaded the cannon and it fired a charge.

A hollow echo again hit their ears, bright fire flashed in their eyes and went out. How long this went on Kalashnikov didn't know. When he opened his eyes, he saw Kuchum.

"Mish, Mish, are you alive?"

"Quiet, don't touch my arm," Kalashnikov said with difficulty and felt as if his left shoulder were surrounded by something wet and hot. "Get to the machine gun, Kuchum."

"It's all over. We're pulling back."

"Where to?"

"To the original lines. They've retaken the hill for the time being. Ah well, show me your shoulder."

Kuchum looked at Kalashnikov's shoulder. Then he carefully undid the overalls and shirt and whistled slowly:

"You've got a fragment. It's a miracle we're alive."

Campfires

Under the pressure of superior enemy forces the rifle units retreated. The tank battalion which was cooperating with it received the mission: to protect retreat maneuvers from enemy movement in columns on the flank.

They had to pick their way carefully, quietly. Century-old trees blocked the route of the "thirty fours", boggy marshes threatened to give way under the treads, but the tanks went on and on, resigned to the will of the men driving them.

Under their treads the rutted corduroy road trembled. The driver began to squirm and raised himself in his seat trying to see how deep the water was. Kalashnikov went out onto the armor and sat near the driver's hatch in order to help pick the route. He noticed that Ovsyannikov who had become commander of the company after Malyshev's death did the same. His tank now went in the lead.

The machine lurched and Kalashnikov hit his shoulder on the turret. The pain ran like a sharp knife through his body. He closed his eyes and tightly gritted his teeth in order not to cry out. Gradually the pain disappeared, leaving as a remembrance drops of cold sweat on his forehead.

After the battle for the hill Kuchum had taken his commander to the medical post. Having waited his turn, Kalashnikov showed his shoulder to the

nurse. From her eyes he could see that it was not good. The doctor came in and after looking at the wound said: "Bandage it and send him to the battalion hospital!" The nurse had done the bandaging; there were so many wounded that after a while she forgot about Kalashnikov. He slipped out silently.

At the company, to all the questions about his wound, he answered: "It's nothing." Even Ovsyannikov didn't find out what the doctor had said. It seemed to him that discipline ends when it comes to one's own body. The idea that he should leave his comrades when they had to go out almost every day into battle seemed wrong. "It will keep," he said to himself.

The lead tank braked sharply, and the others stopped after it. The tank-men sprang from their machines and went forward. Kalashnikov jumped out

to the ground after Kuchum, but staggered and stopped to stand holding his hand on the body of the tank.

"Back, to the machines!" The warning voice of Ovsyannikov was heard. And the men rushed back.

In front of them, on the shore of a small lake was a dark box-shaped shed and along side it two stacks of hay. Bonfires burned by the water.

But at the fires there was no one. Probably the men were hidden.

On Ovsyannikov's order, Vederkin with two soldiers at his side went to the shed. There were a few minutes of quiet, then from far off a voice was heard and one could see shadows dancing dimly in the reflection of the flames. Vederkin's voice cut through the darkness:

"Comrade lieutenant, they are ours!"

The lead machine pulled forward. Kuchum carefully sat Kalashnikov on top and their tank also moved along the road which skirted the lake invisible

now in the darkness.

Around the shed in groups lay a rifle battalion badly worn by battles. They got up from the circle with difficulty and now moved to join the others.

There were many wounded in the battalion. They lay on straw in the shed and around it on spread-out overcoats. A tired, unshaven man in glasses, with insignia of a military doctor third rank, tried to ease the suffering of the badly wounded. But it was beyond his capability: he didn't have medicines. Two nurses washed bandages and dried them at the campfire.

Ovsyannikov approached the commander of the rifle battalion--a short major in a dark overcoat, tightly held down by brand new crossed rifle straps. The major also had a new squeaky map case and a light yellow pistol holder. He looked at the lieutenant with tired and indifferent eyes.

"We must put out the campfires," said Ovsyannikov. "We will attract aircraft."

"But now it doesn't make any difference," the major said hopelessly. "However you have tanks . . ."

He called two soldiers and ordered them to put out the campfires.

Having sat down on a thick canvas, Ovsyannikov and the major smoked. The major unhurriedly explained the circumstances, said that it wouldn't be too bad if the tankmen covered their retreat, because the Germans judging by everything were not too far off.

"The tactical problem differs from the mathematical in that it has several solutions. I propose a solution which begins with the word to advance . . ." Ovsyannikov said irritated. For some reason he hadn't liked this major with his new squeaky rifle straps from the first.

"We've seen such decisions in the movies," answered the major. "But the

Germans, you remember think otherwise. We have "Maxims" of a three-line 1891 model, and each soldier of theirs has an automatic weapon. I am glad, you understand, that we are alive to lead the battalion. Lately they gave us a lot of trouble."

Ovsiannikov got up.

"Well, that's how it is. Our higher commander isn't here right now, we decide ourselves. My company must go at dawn to the Black Khutor [farm] and join the battalion. We must strike a column of mechanised infantry. Apparently it's the same one that gave you trouble. We have a possibility of winning."

"You're well off, you know in tanks. But we have eight heavily wounded men," the major said in a whining voice. "Put it to the battalion, what will the answer be then?"

"Stop," Ovsiannikov said quietly, "I'm ashamed of you. And if we don't protect the country what will the answer be then?"

The major was silent.

"The wounded need to be sent to the rear," said Ovsiannikov, "and the battalion to proceed in order; talk to people. Where is your commissar? Is he alive?"

"He's alive. He's talking, you know with people. But I'm supposed to be doing the work."

"But you are the commander. Are we agreed?"

The major didn't answer for a long time. He got up, and the rifle straps tightened on him.

"Will you give me a driver?"

"What kind of driver?" Ovsiannikov didn't understand.

"I have a lorry, but the driver, you understand is dead. We only just managed to push the lorry this far. They would send a driver--the wounded could be taken on it and then . . ."--he waved his hands in the direction of the forest.

"We will give you a driver," Ovsyannikov said joyfully. "That's our duty." Having noticed Vederkin approaching he called him and asked: "Who in the platoon can drive a lorry?"

"Any driver mechanic."

"But not a mechanic?"

"Not a mechanic . . . if you please, Kuchum can drive. He was a chauffeur in civilian life."

"Give my order to send Kuchum on order of the battalion commander, comrade. He drives the lorry with the wounded to the medical battalion hospital. Is that clear?"

"It's clear. There is just one thing, comrade lieutenant. Let Kuchum take Kalashnikov."

"Kalashnikov?" The lieutenant was surprised. "He said that he was all healed. And he went into the attack day before yesterday with everybody."

"He's that kind of man," Vederkin said softly. "He loses consciousness but he doesn't want to give up his place."

"Where is he now?"

"In the shed, where their doctor is." Vederkin pointed his hand at the major who was attentively listening to the conversation.

Ovsyannikov walked off toward the shed. Vederkin walked behind the major with the tightly crossed rifle straps. At the door of the shed the major stopped and looked sternly at someone in the darkness.

"Everyone report to me, all commanders and the commissar too please. Yes, we're getting on, listen! They went off, you understand as if they were not a military unit. Be alive!"

Ovsyannikov lit his pocket light. In the darkness the thin rays fell on the figure of a soldier covered with an overcoat, a bottle of water, a box filled with bottles. Ovsyannikov moved his hand and again in the rays of his light one could see wounded lying on the straw. One of them, apparently unconscious softly called someone named Zina.

In the strip of light walked a tall man in glasses. He was in a service shirt, with green insignia which could hardly be guessed to be rectangular signs of distinction. His cheeks were even covered with unshaven whiskers.

"You're the doctor?" asked Ovsyannikov.

"Yes," answered the man, squinting from the lantern light. "You need something?"

"I am commander of the tank company, Lieutenant Ovsyannikov. There must be a Senior Sergeant Kalashnikov here."

"Ah, the tankman. He's here. Come this way."

The military doctor walked over to the corner of the shed, carefully stepping over the wounded. Ovsyannikov and Vederkin followed him.

Kalashnikov lay on his side. His helmet turned inside out served as a pillow.

"Contusions of the shoulder and a festering fragmentation wound. Even under hospital conditions this would be a very difficult case," the military doctor said quietly. "We'll do what we can, but you must understand," he held his hands as if to excuse himself that he was not in a hospital.

"Yes, yes," hurriedly agreed Ovsyannikov squatting down.

Kalashnikov opened his eyes.

"Comrade lieutenant?"

"Lie still, lie still . . ."

"What kind of nonsense is this. I was just fine all the time and then suddenly . . ."

"Don't worry about such things. In the morning you'll go to a medical battalion hospital along with the other wounded."

"But its nothing, comrade lieutenant. Look, it's nothing."

"I order you to go to the hospital," answered Ovsyannikov.

The soldier next to him groaned. Apparently he was very bad.

The doctor knelt down and softly said in the darkness:

"Vera, is there any morphine left? Give me a syringe."

Ovsyannikov and Vederkin silently watched as the nurse took the syringe and gave the injection. They waited for the doctor to be free, Ovsyannikov motioned with his head in agreement toward the exit.

The moon came through from behind the trees; it began to be light. A deep silence was everywhere.

"Well, comrade doctor," said Ovsyannikov. "At dawn we go. Our battalion goes. Back, from there it goes. I am giving you a soldier who will drive the lorry. You will send the wounded to the rear?"

"Well have you any other suggestion?" the doctor asked mockingly.

"I didn't mean that. Do you need more than one soldier? The Germans are close."

"Where I was, young man, I was a reader in pediatrics at the Kazan Medical Institute." The military doctor took off his glasses and after looking at the glass wiped them on a handkerchief. "Pediatrics--that's the science of

children's diseases. I taught students to treat whooping cough and scarletina and thought that I would be busy with that the rest of my life. For the last three months I have done seventy-two fairly complicated operations. Really in a war one doesn't ask the question is it possible? In a war work is simply done."

Ovsyannikov was silent for a few seconds. He walked over to his interlocutor and squeezed his hand hard:

"Forgive me, doctor."

He turned and walked over to where the tank stood.

Vederkin saluted and went after the lieutenant. And the military doctor leaned his shoulder against the wall of the shed and stood there until the sound of the footsteps disappeared. Then he walked over to the lake and washed: he feared what lay ahead.

The Volleys on the Outskirts

Kalashnikov opened his eyes. Murky light penetrated through a crack in the wall. His back and legs were cold; he wanted to roll up into a ball and not moving lie there, lie there.

A confused anxiety suddenly seized him: around him it was unusually quiet. He turned and looked through the crack in the wall. The area where the tanks had stood in the night was empty. There was only a line of dents in the high grass.

He looked around. It seemed to him that in the evening when he had entered the shed, there had been many wounded men here--they occupied almost all the free space. Now on the floor lay only one young soldier in an overcoat with his leg unusually large from bandages. He stared at the ceiling, and bending the fingers on his hand, moved his swollen lips, "apparently, its

necessary."

"Hey, friend," called Kalashnikov. "There aren't very many people here this morning."

"True, there were," the soldier answered and having counted straightened his fingers. "Soon they will be here for us."

"Why is this?"

"They are sending us to the rear. For treatment. Everyone else is already carried to the machine. The lorry machine is one we had in the battalion. Now the badly wounded will be carried in it. And those who could move easily have gone."

"Where?"

"Back. They say, your commander put our major out of commission. And we would be even farther from these places."

"The tanks left?"

"The tanks went forward and our men after them. The men were cheered up. After the tanks where possible. Now they'll give fire."

Kalashnikov was silent, and the fellow again began to count. And again he couldn't. He straightened his fingers and turned to Kalashnikov.

"You know, we tankman will be in the same company of soldiers now--the hospital," the soldier laughed and began to straighten his bandaged leg.

The laughter seemed inappropriate to Kalashnikov. "How can it be," he thought about the infantryman. "His comrades have left him to fight maybe even meet the Germans, and he's glad to be a wounded casualty. A coward, indeed."

As if to retort to Kalashnikov's thoughts, the infantryman said:

"You were caught by a fragment, in truth. Also a wretched thing. But

I got it from an automatic weapon, a viper." The soldier spoke gently, as if his speech were about playing a game. "It came from the right flank. The machine gun fired and hit. I threw a grenade and gave them a mouthful. I stood up from the ground in order to aim truly, but the automated ack-ack slashed me in the foot . . . I fell, pipe and all. Thank goodness, Verka carried me. She's a brave one our Verka."

"A wound--that's a bad thing," agreed Kalashnikov, feeling that his relationship to the soldier was changed. "I, you know, thought that you were just caught and you, obviously are brave."

"Especially among girls," laughed the soldier, but now his face had an angry expression. "Why doesn't she come for us? Verka-a-a!" he shouted loudly and listened, waited for an answer to his call.

A plump girl in an overcoat and chrome boots with tops turned over appeared in the doorway of the hut. She had a gauze kerchief tied carefully on her head. She came up to the soldier and asked sternly:

"What are you yelling about? Are you dying? Oh, how I suffer with you. I should have known better than to pull you out from under fire."

"Don't talk that way," softly returned the soldier. "You couldn't have done otherwise. We are fellow countrymen aren't we? Countrymen. And you as a nurse are especially dedicated to a fellow wounded person. Carry me to the machine! Enough of this loitering."

"The grief you give me," said the girl without malice. From her voice one could guess that she and this wounded man had established a special relationship and the tone of their conversation was clearly put on. "You're heavy; you devil, without the tankman I can't carry you. Tankman, tankman!" called the girl.

Kalashnikov decided that she was referring to him and prepared himself to get up, but to his surprise a man in overalls and tank helmet walked into the hut. Kalashnikov couldn't believe his eyes: it was Kuchum.

"Nikolai!" Kalashnikov shouted with joy.

"You woke up?" Kuchum turned to him. "Let's eat quickly."

"Why are you here?"

"They left a driver for the hospital lorry. And meanwhile I'm under a certain medical worker," Kuchum pointed to the girl who was patiently waiting while he finished the conversation. "How are you feeling?"

"Fine, they left me for nothing."

"Splendid! The third rank military doctor says that you have such a magnificent wound that the students at the institute can study it. All the consequences of heavy damage to the shoulder. If this isn't treated for a long time then fighting in a military machine, namely a tank . . ." he laughed, pleased with himself about the "studying" phrase.

Kuchum and the nurse carried the infantryman from the hut and returned after a minute. Seeing that Kalashnikov could walk himself, they began to hurriedly collect the rest of the medication in a suitcase.

The cold was blowing in from the lake. The bushes were wrapped in fog. No birds were heard and because of this the forest seemed watchful. The wounded sitting on the sides of the lorry, had turned to look at the thicket. Kalashnikov also turned toward the forest. A frightening thought flashed in his mind: "If we meet the Germans what can we do, twelve wounded men, a doctor, Kuchum and the nurse.?"

The doctor ordered the nurse to sit in the cab and he himself awkwardly climbed into the back. The machine pulled away. Kuchum drove carefully so as not to disturb the tightly packed men who were lying and sitting in the back.

But the country road let everyone know about it: many of the soldiers gritted their teeth and tried not to look at their comrades in order not to show their pain. The cold engine smoked incessantly, putting out a cloud of grey exhaust on those sitting in the rear.

The first who couldn't stand it was a fellow with a bandaged head. He raised himself from the floor of the truck and leaned over the side as if he wished to jump to the ground. But the machine pulled ahead strongly and the fellow fell back into the truck, swearing incoherently at length. He began to groan, first quietly, then louder and louder. The doctor stopped the truck and gave the soldier alcohol with morphine added. In the watchful quiet one could hear how the teeth of the wounded man rattled against the metallic mouth of the flask. The doctor held the flask to his mouth and the soldier took sips from it.

The lorry again pulled forward. It went slowly, heavily moving over the pits and bumps. The road became worse. Branches of aspen with crimson leaves which had not yet fallen brushed over their heads. As the soldiers became accustomed to travel, those who were not so badly wounded began to talk. Kalashnikov listened to an argument between an acquaintance with his neighbor--an elderly man with a long mustaches in a garrison cap, put on not as it was supposed to be lengthwise of the head, but crosswise. The infantryman insisted that his wound was "interesting," because it was caused by a more modern weapon--an automated submachine gun.

"And in general I noted," the soldier spoke with heat,--"That all the German forces had submachine guns. It rests on his belly and fires away with a white light. But you approach! And you get cut in two."

"That's true," wheezed the man with the mustache, "The thing is remark-

able. We might not be retreating now if every soldier had a submachine gun. Where can you get with rifles against it."

"That's what I was saying! We haven't even thought about a submachine gun yet."

Kalashnikov didn't agree:

"We also have a submachine gun. It was used in the Finnish war. It's a Degtyarev design."

"Degtyarev?" said the soldier sitting on the other bench. "Can't confuse the infantry, tankman, as if he doesn't know. Degtyarev's is a hand machine gun. I'll suffer from a callous on the shoulder my whole life from firing it. And we haven't even thought about an automatic submachine gun yet," the soldier waved his hand. "That's the actual truth."

They were all silent. The leaves of the trees flashing by on the side changed to fir. The machine drove up to the edge of the forest. An expanse of field opened before it. The country road bent sharply and a village appeared before them. Tightly crowded huts with timbers grey from time lined the road.

Kuchum braked and got out onto the running board.

"Comrade doctor, shall we continue directly into the village or reconnoiter?"

"Let's see who's there," put in one of the wounded.

"Stop the conversation," the doctor said sternly and got up. "I ask you to remember that I am the senior officer here. You are all soldiers and discipline must be observed. Is that understood?"

Silence fell. The doctor looked for a long time at the sight of the village. Finally he turned to Kuchum:

"I propose that we should reconnoiter."

"I'll do so immediately," said Kuchum and jumped from the lorry. He stood straightening his pistol holster. "I'll just be an instant."

"Permit me to go, comrade doctor," said Kalashnikov, "there could be Germans in the village. It's better to have the machine in readiness. Just in case . . ."

The doctor wavered. Kuchum stood indecisively fingering his holster.

"The comrade tankman is correct," the doctor said slowly. "But how are you feeling? Can you go?"

"I feel fine," answered Kalashnikov and to show it sprang over the side and jumped to the ground. A sharp pain seized his shoulder, but he said briskly to Kuchum:

"Give me your gun. I left mine in the tank."

Kuchum reluctantly took off the belt and handed it and the holster to Kalashnikov.

"Comrade doctor," suddenly the soldier with the long mustache the one who'd been arguing about automatic submachine guns said. "One person can't do the reconnaissance alone. May I go? The tankman with his wound in his left shoulder and I in my right. Then together the two of us will make one healthy man. I can walk all right. May I?"

"Well, if you wish, go," the doctor said indecisively. "You're not sick, but God knows why. Go."

Kalashnikov and the man with the mustache moved forward, hiding in the bushes which jutted out along the side of the road. The bushes were moist, having shaken off the morning cold. They whispered weakly in a wind that was blowing and sprinkled drops of water on the ground. Kalashnikov turned and saw that the soldier following him had unfastened his overcoat. He barely

managed, clumsily trying not to trip from the blows of branches which brushed his hand.

"Slower, fellow. I'm sweating all over, you see," the man with the mustache whispered. "Apparently I pretended to be brave in pain."

Kalashnikov slowed his step and unfastened his holster. His fingers groped for the cold oiled surface of the metal. It was as if the curve of the pistol was a friend: one that wouldn't let him down. Kalashnikov remembered the first time he'd seen a TT. He'd liked it immediately: reliable, a strong machine, if one can say that. Perhaps, he would have to use it today. It's always true that what you expect doesn't happen. They checked the village and went further. That was all.

The road was barricaded with a rough fence. Kalashnikov stooped and slid under it. At his side the man with the mustache wheezed. He crossed the potato field and came up to a rain-blackened barn. It was empty, through the open door they could see bits of manure and a broken wheel from a cart. The hut seemed empty. Its door was fastened with crosswise boards, carved, and the shutters painted with leftover bright green paint were also closed.

"Seems the owners have disappeared," said the infantryman and went forward to the gate which led into the village street. "You see, tankman, everything is dead."

Kalashnikov looked out from the front garden. In truth, the village houses were empty. There was a deep quiet everywhere: no conversation, no child's tears, no mooing of cows. It seemed a little frightening.

"They fled from the Germans," said the man with the mustache and breathed more freely. "Let's go and report to the doctor." He moved forward and

pushed the gate.

A round of automatic machine gun fire split the air. Tracer bullets pierced the boards splitting and breaking them. The soldier grabbed his cheek and jumped back. His face was pale. He started to say something but a second round from the other side hit the gate.

"Germans! Let's go back," Kalashnikov pulled the mustached man by the strap of his overcoat.

In three leaps they reached the corner of the house. Blood trickled from under the soldier's palm. Kalashnikov pulled out a pocket handkerchief, offered it to the man with the mustache and ran further. Running through the potato field, he noted two German soldiers on the street. Getting tangled in the folds of their long green overcoats they hurriedly rushed along the street and hid behind the fence.

In the corner of the courtyard there was a view of the road. Kalashnikov raised his head in order to see the lorry. On the side where it should have been a shot sounded, behind it--another, the motor roared sharply, but suddenly as if some powerful hand had grabbed it, it was silent.

"Grab your weapon, and get to the machine" quietly whispered Kalashnikov to the man with the mustache.

"But I don't have anything," the other reminded him and breathed even more heavily.

Kalashnikov turned sharply and not finding words after a few seconds steadily looked into the grey obedient eyes of his fellow traveller. The ends of his mustache yellowed from smoking drooped guiltily on the old soldier and he himself seemed to roll into a ball as if feeling there was no forgiveness for him.

"Oh well. Still it's useful in reconnaissance . . ."

They again moved forward, but long fire behind them forced them to throw themselves to the ground. The Germans were following in the rear.

"Run!" shouted Kalashnikov and threw himself into the bushes.

The branches of the nut tree slashed painfully at his face. The water-soaked grass was treacherous underfoot. Bullets whizzing through the air were lost in a tangle of branches and yellowed leaves. Gradually the reconnoiterers began to move on: the Germans, apparently, had lost sight of them.

"Let's go carefully now to where the machine will be" Kalashnikov turned back and saw that the man with the mustache propped up on one elbow had unfastened the collar of his shirt with one hand. His face was pale, the blood on his cheek mixed with earth had formed a brown lump.

"You go on alone. I can't go further," he wheezed and fell to the grass. "Then you can send back for me."

Kalashnikov carefully pushed aside the branches and went forward. The bushes thinned out quickly, he lay down and crawled to the side of the road.

The picture which he saw made him wince. Around the machine were crowded the wounded soldiers, and around them stood Nazis holding automatic submachine guns. There were many of them--twelve men. One of the Germans pointed with his hand toward the village. The doctor standing at the edge moved forward. The others followed him.

And what happened next lasted for a minute or maybe two. The Nazi soldier pushed a wounded soldier's legs. The doctor shouted in a thin falsetto: "Don't you dare, he's wounded," but he was hit with such a strong blow on his back with a rifle butt that he couldn't stand. Kuchum turned, snatched the machine gun from one of the fascists standing near him and pressed the

detente. He succeeded in firing one sort round, but a bullet struck him and he fell. A German officer fell. One of the wounded motioned toward one of the fascists standing in the ranks. An automatic round began to jabber resoundingly. Among screams the wounded sank to the ground. The last to be killed was the doctor. He managed to shout: "Barbarians!" And there was silence.

Boundless anger seized his throat, his teeth were clenched as if from inhuman pain, his hands grabbed the pistol from the holster. Kalashnikov fired several times. Then he realized that he was drawing fire on himself and the man with the mustache. But what's done was done. He ran back only when the German's opened fire on the forest. The shots quickly quieted down, --apparently the fascists didn't want to pursue, being discouraged by their losses in their ignominious slaughter of the ten wounded men.

The man with the mustache looked at Kalashnikov with wide open eyes.

"Well?" he asked briefly.

"They murdered all of them, the rats. They were surrounded and all of them wiped out," Kalashnikov said hollowly.

"But they were wounded!" cried the man with the mustache.

In answer Kalashnikov only shook his head and dropped to the grass.

They were quiet for a long time.

"What's your name?" Kalashnikov asked the man with the mustache and got up.

"Ivan."

"And your middle name?"

"Fedorovich. Ivan Fedorovich Mushtakov."

"Well, Ivan Fedorovich," said Kalashnikov, "let's be on our way. Does

your wound hurt?"

"It hurts."

"Well, we will be stalwart. Our task now is to remain stalwart and to avenge them. Oh, how we need to avenge ourselves . . ."

He didn't finish speaking and started off. The man with the mustache got up heavily and walked after him carefully holding the dirt-covered bandages over his wound with his hand.

A Ward of Hospital Squabblers

And they passed through the front.

A month later Kalashnikov was sitting on the windowsill in the corridor of the hospital looking at how the glass made a frosty mirage of the chimney smoke spreading over the rooftops.

Opposite him the houses of the old Russian city were crowded together: walls with three bricks, rectangular small windows, wooden porches. There was snow on the sidewalks and on the bridge approach. It was pressed down from morning till night by the wheels of automatic machines, polished by the sliding of sleigh runners, waxed by the soles of valenki [kind of felt boots], trampled by the stiff soldier's boot. Somewhere great battles were going on, but here at the rear, everything was the same for many people. True, the men were almost all military--rear guard, students, soldiers from units being formed. There were no working people to be seen: they were at the factories all day. In the local paper it was written that one brigade when needed had worked at their machines straight through for two days: in war it cannot be otherwise. There were the children and some others; from the window one could often see how they ran along the houses with buckets for ashes, and into the hospital to entertain. Yesterday one chubby little boy in a red

tie sang "Blue Kerchief" so that seeing the face of scout Vasya Korotygin, his neighbor in the ward, he could not hold back--the tears flowed.

Kalashnikov leaned his forehead against the cold glass. He sat that way often and looked into the street. And what to do? The doctors, looking at his wound, only shook their heads. They wouldn't mention release. Mushtakov, apparently, was easier to treat. When they'd arrived they had been sent to the same hospital. After a week there was hardly a bandage left on the arm of the man with the mustache. He sat and thought about something and then left the ward and didn't come back for a long time. He came back jolly his mustache standing erect. "The head doctor has said that they will release me."

Next day they said their goodbys. Mushtakov came up to Kalashnikov: "I'm going back. Together we have seen so much that for me to stay here with this scratch on clean sheets would be a disgrace. You aren't able yet so I will go back for the two of us." And he left.

When the mustached man had been there it was easier. Without him everything was exhausting. He listened to the reports from the Information Bureau and gritted his teeth with fury. Sometimes he thought again about working on his instrument. He remembered how the commander had said: "It is necessary work." But then, as if in a daydream he saw Leningrad, Malyshev's burning tank, the lorry and the wounded bodies spread all around it . . . The instrument seemed insignificant. What need was there for it right now?

He read the papers avidly. If it was well written in a second he imagined himself again in battle, in a heavy tank and enemy automatic machines flash obliquely in the periscope . . .

Next to the hospital there was an artillery school. The trainees often

marched past the window. Kalashnikov watched many of them as if they were acquaintances. And right now they were marching--hup, two, hup, two. The master sergeant stuck out his chest, gave the command, something Kalashnikov couldn't hear. The formation turned, their boots trampling in unison over the snow, their ranks standing at attention not wavering. "Fine fellows," thought Kalashnikov. He had seen how the students had arrived a month ago: no formation, a crowd, like the pioneers and then better. But now . . . if they are the same in their other military sciences they will hold the Germans, will be outstanding reinforcements!

"Comrade Kalashnikov, on the window sill, and his shoulder resting against the cold glass. Remarkable! Just remarkable. In five minute all our month's work is down the drain."

He turned. Behind him stood the senior nurse--a small, plump and very strict woman. He was more afraid of her than of the head doctor

"Well, march to your ward!" She stamped her foot. "Find you place."

Kalashnikov embarrassed, pulled his gown tighter and turned from the window. Who knows, can the senior nurse be right. I want to be released quickly and I, myself, spoil everything.

He went to the ward and opened the high white-painted door. It was noisy in the ward: a young fellow from the field engineers lying in the hospital with a severe wound in the leg had started an argument again. He argued on every conceivable subject: if there were people on Mars, where one could get the cheapest apples before the war, how old Hitler is and whether the head nurse is married. He had an unusual capability for expressing his views or, on the other hand, arguing against all categorical statements of the others and starting an argument in the entire ward. Even the

lieutenant from the marines who before the war had been a student at a philosophical institute, a quiet and poised man, put aside his book and unhurriedly contributed his enlightened words to the argument.

". . . And I say, all our strength lies in them," the field engineer affirmed with heat.

"Sit down again--' in them,'" scout Vasya Korotygin defended himself. "Also to me the automatic weapon is the strength. I've already encountered the automatic submachine gun with the Finnish. It's a good machine. But they've already captured the Kerelsky Isthmus. The automatic machine guns didn't help."

"But you see how they carry out the attack? You've see? They rest the "Schmeisser" on the belly and burn everything. They push on!"--The field engineer didn't stop talking.

Having heard these words, Kalashnikov winced. He remembered the morning fall forest, covered with fog, and the same argument in the back of the truck. He could even see the surroundings: wouldn't it be a miracle if that soldier who had lain next to him in the hut were here?

"Well, let's hear what the tankman has to say," the field engineer turned joyfully having spotted Kalashnikov.

Kalashnikov silently went over to his bed and sat down. They all waited with interest to see what he would say. They waited not because he was any kind of special technical authority but simply because he hadn't participated in the argument and probably would say something that no one else had brought up as an argument.

"I've already heard such speeches," Kalashnikov said quietly. "You talk nonsense. So the Germans have automatic submachine guns. So do we. Only

fewer. We will need to have more."

"You don't read the editorials, they are competent," the engineer interrupted him disappointed. "With my own ears I heard from an engineer that this piece is complicated. It is not without reason that they call it in Latin-- the automat. That means it runs itself."

"Itself, itself," laughed Korotygin, "but one has to rest it on the belly. It's you who've been chattering automatically lately."

"Whatever you say," stubbornly objected the field engineer and waved his hands in the air, "The automatic weapon is a technical superiority held by the Germans and we need to reckon with it. We need to overcome this superiority."

"Well, and we'll overcome it," Kalashnikov turned toward the engineer, "without panic."

"You will invent the automatic weapon?" the field engineer jumped toward him, tapping his crutch. "Look, we have found a designer!"

"They'll find it without me."

The quiet tone of Kalashnikov discouraged the argumentative man and for a second he stood still, opened his mouth and leaned on his crutch. The marine lieutenant laughed:

"Let's make up our minds this way: Kalashnikov can design the automatic weapon and we'll call it the WIA--the ward for hospital arguers. How about it?"

"But you, comrade lieutenant are laughing in vain," retorted Kalashnikov. "By the way I've already received this watch from the district command for one invention." He held up his arm but immediately covered the watch with his palm. He was uncomfortable for such an immodest interruption.

Korotygin sat down beside him and looked at the watch, loudly announced: "For the talent of our comrade who thoroughly and cleverly discovered something new." Kalashnikov was silent, continued to chastize himself for his unnecessary admission.

In the farthest corner of the ward a group organized a game of dominoes. The duty nurse came in and explained that in ten minutes a lecture would begin and that the hospital commissar requested that all ambulatory patients come to the hall.

The entire ward was "ambulatory" and the words of the nurse were greeted with enthusiasm. Patients crowded toward the door. Even the marine lieutenant put his thick book in the night table and unhurriedly went into the hall.

"Come on, are you coming," Korotygin seeing Kalashnikov continued to sit unmoving on the bed, as if the invitation to the lecture didn't apply to him.

"Go ahead. I'm staying here."

"You were disturbed by the argument? Don't pay any attention. Everyone here knows that you're an upstanding fellow. I'll give that fellow on crutches a good lesson one of these days. He's more empty headed than most."

"Okay, go on alone."

When the door had banged behind Korotygin, Kalashnikov stretched out on his bed. He noticed how the early winter twilight thickened beyond the window.

"Why are they all talking about automatic weapons?" he asked himself. Apparently, the infantrymen are the first to feel the need for it right now. Maybe if I had had an automatic submachine gun there at the machine with the wounded all of those fascists couldn't have shot Kochum and the others . . . Perhaps in truth we're already making automatic submachine guns. The Degtyarev and Felorov are being made. It isn't easy to convert industry. The tanks

that we have are no match for the Germans. Automatic weapons will come."

Pictures flashed before his eyes. He imagined a long hall with drafting tables set up as there had been at the factory where he'd been recently sitting; at a window and had drawn sketches of components for his counter. Then another picture appeared: a mill assembly with a tape conveyor belt; on the belt-- submachine gun. More, and more, they come and come and come . . .

Kalashnikov got up and went over to the window. He was where the field engineer had stood a few minutes ago and said: "Our gunsmiths have not done it." "And is he really right?" thought Kalashnikov, they won't reach it. It is usually thus: they work and work and don't attain it. The requirements for a submachine gun must be high, and cannot be done immediately. Well like the counter one should have a competition."

He got up from the bunk and walked around the ward--back and forth, back and forth. An impudent thought came to his head. It made him catch his breath. He wanted to accept it but some cold blooded and poised part of him said: it's not necessary, not necessary. And again came a clever and triumphant thought: to make the submachine gun himself. Maybe he could do it. I love weapons and know quite a bit, and I can use what I studied for the instrument. And mainly I won't lose time while the others are fighting the enemy.

Out loud he said:

"Calmly, calmly. No need to hurry. First everything needs to be collected everything weighed. This will be more complicated than the instrument."

Having wrapped his blue hospital gown more tightly around himself Kalashnikov quickly went out of the ward.

In the corridor he met the head nurse. She looked at him sternly over her glasses:

"You are not at the lecture? Strange. Very strange."

"I was asleep," Kalashnikov said cleverly.

"That's excusable. But you'll still be able to hear it."

"Yes, yes. I'm going," he said and went farther.

The door into the hall was farther down the corridor but he turned, not going in it, and on the broad empty stairs rushed down to the first floor where there was, besides extra rooms, a library.

The librarian Marusya was a sweet and somewhat shy girl, who was truly miserable when she couldn't produce the book required for anyone. Kalashnikov liked her, as he usually liked quiet and serious people. And he had read a great deal, mainly classics, in order to merit her esteem more.

"Comrade Kalashnikov? Hello!" Marusya lifted her head from a notebook in which she had studiously been writing and smiled.

"Greetings, Marusenka. I have a request for you. Give me everything they have in books on small arms."

"On small arms?" the girl was surprised. "Is this for a cannon?"

"No, for pistols, rifles, machine guns. You probably have books all on one shelf."

"Very well," said Marusya and disappeared behind the door, discouraged and serious. After several minutes she came back carrying a packet of books of various dimensions like a bundle of firewood. She threw the books onto the table all at once and a small cloud of dust rose up from them. Evidently they'd been standing on the shelf without use for a long time.

"The senior librarian also recommends Fedorov's writings published in a journal "Engineers - Fine Fellows." Shall I get it?"

"Bring it, bring everything," said Kalashnikov and began to look at the books. Here there were two volumes of "Evolution of Small Arms" by Fedorov,

publications of the Artillery Academy, reports on three-line rifles, the Degtyarev machine gun and the "Nagant" revolver.

"Here are more," Marusya placed two thick volumes of bound journals on the table. "It seems, tankman, that Mikhail Timofeyevich is interested in why rifles."

"It's nothing," smiled Kalashnikov.

On the way back to the ward he didn't run into anyone he knew. Having put the books in his night table, all except one--the thickest and largest, he lay down on the bed on top of the covers, turned on the light and began to read.

In the street one could hear the hollow echos of truck motors. Stars came out in the frosty sky. The moon came up and turned the snow on the rooftops silver, throwing angular shadows on the alleys. Kalashnikov didn't know how much time had passed since he had opened to the first page. He made a face of annoyance when he heard voices beyond the door: his comrades were coming back to the ward. Judging by the conversation, there'd been a movie after the lecture, something on the front.

Korotygin came up to Kalashnikov's bed and turning the book over, said:

"Small Arms Materiel Unit' Oho! You, I see have already started work."

"Not so loud," Kalashnikov made a wry face.

"I'll be quiet, I'll be quiet." Korotygin put his finger to his lips.

"Silence." He was quiet and then thoughtfully said: "It's interesting, how do inventions usually start? . . ."

Behind him one could hear the field engineer coming supported on the floor by his crutch:

"Inventions? What inventions? Korotygin do you know what the greatest

invention on earth is?"

"Well, it has begun," laughed Kalashnikov and put the book under his pillow. And the whole ward laughed with him.

Frosty Sun

The measured hospital days flew by more quickly. Kalashnikov read the books he'd taken from the library with enthusiasm.

But somehow having read up to the chapters where a description of pistols began he put aside the book and stared into the deep blue of the frosty mid-day sky beyond the window. It reminded him of his childhood. Kosoy Spirka, a youth from a neighboring street, had given him for a time as he called it, a "Levorvert." It was a Colt--a small graceful little thing which had, however at close distances great killing power. There was no cartridge for the pistol. Ten-year-old Misha Kalashnikov at first had not wanted to touch the weapon: where Spirka had gotten it from was unknown. But curiosity overcame him. He seized the pistol wrapped in a rag and ran up to the attic.

In a corner, covered with cobwebs, he took apart the pistol. It seemed to be surprisingly simple. But to put it back together? He struggled for a long time putting the blue steel parts slippery with oil one against another. Somehow or other he succeeded. He needed only to put the spring in place. He sweated from the strain. Blood dripped onto the attic floor from the end of his small finger. Finally the spring was in place. His muscles relaxed, he wanted to shout from joy, to jump to whirl around, like when playing gorodki¹ where after many misses suddenly one knocks the entire figure from the circle. But it was impossible to tell anyone, they would find out about the pistol.

He examined it and squeezed the trigger. And again he took the screws from the pistol. Now it was easier to put it back together: the parts seemed to

¹Translator's note: A game similar to skittles.

put themselves back into one piece. "And who thought this so clever, he said delighted. Great. I could even take a machine gun apart, look at it and put it back together!" He hid the pistol in the confusion of wrappers and went outside. He walked slowly and, didn't talk to the children, though he could hardly keep himself from talking. He remembered that Spirka had told him in a terrible whisper not to utter a word about the pistol.

But then he told everything to someone. With just one friend he climbed up to the attic--showed them the treasure. And the next day a policeman arrived at the house. His mother was upset, cried, wiping the tears with her apron.

At the station they questioned him for a long time: where had he put the weapon? He said nothing remembering that he had give Spirka his word. They sat him in an empty spacious room with bars on the windows. He sat there until evening listening to arguments between two grandmother-homebrew makers. Then again they stood him at the table and he asserted: "I have nothing." They let him go. He looked for a long time for Spirka, wanting to give him the weapon, but he was nowhere. He took the pistol from the rafters and went out of the village. Far out in the fields he took the weapon apart for the last time. He held the cartridge clip in his hand as if pretending that it was heavy, swung his arm and threw it far off into a ravine. He went on further and scattered the rest of the parts. He himself didn't notice how his eyes swam with tears: it was sad to part with a pistol.

Spirka found out about it all and calmly agreed: "Well, that was right. I found the Leververt at home. After uncle left. My uncle is sharp; when he left maybe he thought that the Leververt would kick up a row . . ."

Thus, the love for weapons which had developed did not die. It lasted

until the army, weakly, but in truth fed by being involved in the school firing society. In the regiment the spirit carried over into his duties as a mechanic driver with the tank machine gun.

Now it all came to life again in him kindled by a dream of building an automatic submachine gun himself.

"In 1938 in Germany the "Schmeisser" appeared, in 1940, the MP-40. These same pieces which are now feared on the front. Well, and what about us? What have we built?" Kalashnikov turned around on the bed, anxiously thinking it over. "No, he came to the conclusion, we are not worse. In 1940 during the war with the yellow Finns we already had a pistol-machine gun-- the PPD, Degtyarev's. A little better than the Finnish "Suomi" and now we hear that on the front there is also the pistol-machine gun design, the Shpagin. Like the PPD in appearance but much better."

But again he frowned gloomily: we have too few, too few automatic machine guns! The soldiers wouldn't talk this way like the intemperate field engineer with the crutch or the wounded men in the forest unless . . .

Kalashnikov was not able to dream for long. The noise in the ward didn't disturb him. He got a clean notebook and began to make sketches of the design of various types of small arms--carbines, automatic submachine guns, machine guns. He understood the interaction of the parts thoroughly, but his work had not gone farther than this.

One morning Korotygin sat down on his bed.

"How's your work going?"

"It's going."

Korotygin was silent, not knowing from what side to approach him. Apparently any kind of question bothered him.

"Listen, Mish," he finally said looking at the floor, "explain it to me, how can you just sit and design something. Well, is it a rifle or an automatic weapon, let's talk. How do they work?"

Kalashnikov laughed.

"You asked me as if I were a designer. If I only knew myself . . . I only understand the purpose: the weapon is needed for the next battle. One that can be carried on the attack, fought with in the trenches, in battles in the streets and in the forest. And this means it must be light. And simple, absolutely simple. Right now the soldier can never read lectures, even the orders on a simple design must naturally be as few as possible."

"But how are you going to reach this goal?" questioned Korotygin.

In Kalashnikov's hands appeared papers covered with pencil lines. In the spaces between them there were numbers written.

"Here, look. I've made a free table of the characteristics of various automatic pistol. Notice that they are all heavy. Even this famous German MP-40 weighs 4 kilograms. Without the cartridges. And with them-- almost five. This machine is huge. I fired it at the front: unsuitable. If I only knew myself . . . Well when he worked on the counter, an explanation was written down in the contest, what was needed, how it must be, how to work. The principle of selection was the same so that all the requirements would be satisfied . . . Now the problem is different."

"It needs to be better than the German's," said Korotygin.

"Of course. Yes, and one should find out first all the advantages and disadvantages of existing automatic submachine guns, look at those which are worse and make one that's better. And not only the German one. We need to look at our own. I don't believe all this chatter about the German designers.

Our gunsmiths have always been the best in the world. Read Fedorov's description." Kalashnikov got up and took from his night stand the file of journals which Marusya had given him. "In Search of Weapons" it was called. An interesting subject. It seems that Fedorov even in 1907 had described an automatic weapon in his book. 1916 automatic rifles and machine pistols of his design were supplied to a whole company, the 186th Izmailskiy infantry regiment.

"Well!" said Korotygin surprised. "Let me read it."

"Read it. Meanwhile, in Germany such a weapon as Fedorov made only appeared in 1918."

"Well, that's something for our arguer," exploded Korotygin. "Now we will show him, the devil."

"Okay, sit down," Kalashnikov stopped Korotygin. He was silent and then added: "That's right."

"This means, however whirling, like a bicycle" laughed Korotygin.

"What does a bicycle have?"

"Always two wheels, handle bars and pedals remain, as it was invented. The bells and the baggage carriers can be made differently, but the bicycle remains a bicycle. Is it the same with a weapon?"

"Not completely . . . and the cartridge and the breech block. Other things can be changed. Now steel has appeared, a designer can give a load to smaller parts, and they will be lighter. The weight of this, brother, is one of the most important characteristics."

"Teach me, tankman," Korotygin jokingly pushed Kalashnikov in the chest. "I'll keep the memory of this for my whole life when I return after the war to my store."

"And you, were you a salesman?"

"A salesman? I was a manager! I did antique work, in Moscow, my store was on the Sretenk. I don't know if its still there now."

"Amazing," Kalashnikov was surprised, "but at the front you are a scout."

"Nothing's amazing," frowned Korotygin. "War changes everything. This damned Hitler . . ."

At this moment the door to the ward was pushed open and the head nurse came in. She had packages of letters in her hand. Usually they were delivered by the ward nurse and the appearance of the "high command" in this unaccustomed role caused surprise. Several men stood up from their beds. The head nurse turned to them:

"Stay in your places, comrades. I will come to each of you."

"You sit down when there are letters," said a very young soldier who'd arrived at the hospital a week before. "Our main job is to get them."

"Your job is to recover more quickly," the head nurse said sternly and handed the soldier a blue triangular envelope. She tried to be stern, but couldn't and smiled.

Going up to Kalashnikov's bed she suddenly said:

"Unfortunately, there are no letters for you. But there is good news."

"What!"

"Please go to the head doctor."

The head doctor of the hospital who was a short lively man with cheeks shaven until they were blue, sat behind a desk and sorted papers. He was saying something quietly to the hospital commissar, who was sitting opposite him on a large leather couch with a cigarette in his hand. Seeing Kalashnikov they both stood up for some reason and smiled.

Kalashnikov rattled on about his arrival, perplexedly looking first at the head doctor and then at the commissar.

"Very good," said the head doctor and again smiled. "Sit down over there please," he pointed to a soft square armchair squeezed in between the table and the couch. "Well," continued the head doctor smoothing out a sheet of paper in front of him with his hand, "we've called you in order to congratulate you on a government award . . ." With these words Kalashnikov automatically stood up. "For exemplary fulfillment of your command mission, for courage and bravery by Order of the Presidium of the Supreme Soviet you are awarded the Order of the Red Star." The head doctor stood up and held out his hand. "I congratulate you from the bottom of my heart."

The commissar also shook Kalashnikov's hand:

"Allow me to congratulate you."

They stood there for several seconds.

"How are you feeling?" asked the head doctor.

"Very well. I feel fine. It is time to be released."

"Well and we've been thinking that it's time. We discussed it and agreed," the black eyes of the head doctor looked at him slyly as if he had asked an interesting riddle.

"May I return to my unit?"

"How fast!" said the commissar and blew a cloud of smoke from his mouth. "Hear the doctor out."

"And the medical report says the following," continued the doctor. "Your wound has cicatrized, the inflammation process has stopped. But it can begin again if you do not give your arm complete, categorically complete, rest for a minimum of half a year."

"Half a year?" Kalashnikov was surprised. "The war is going on and I

will not be able to do anything for half a year?"

"Not do nothing, but get well," the head doctor said sternly looking at Kalashnikov, making him understand that the decision would not be changed. "Our task is to return completely well soldiers to combat. Recover and you'll be welcome again on the tank. You will fight. But now it is impossible."

A silence fell over the room. Kalashnikov held his head down. The commissar said:

"So it's decided. Tomorrow we will write out your leave papers for six months. If you recover sooner then that means that you will return sooner to combat. You have relatives where?"

"I'm from Alma-Ata," Kalashnikov answered raising his head.

"Oh, that's marvelous. The climate there is good. Go and give your arm a good rest according to your medical orders. And then again you will be fighting. You are a hero, decorated with an award!" The commissar gently patted Kalashnikov's good shoulder. "Now go and say goodbye to your friends."

At first no one in the ward paid any attention to the fact that Kalashnikov silently lay down on the bed and lay there looking at the ceiling. They'd evidently forgotten about the fact that he'd been called to the head doctor. No one came over to find out. After some time Korotygin asked:

"You're very quiet, tankman. What happened?"

Kalashnikov nodded his head and turned away.

"But answer, what did they say to you?"

"They released me."

"They released you? And you turn up your nose at it?"

"To rest they say, I have to rest for six months."

"Six months," Korotygin stopped short. "That's too much. But it's nonsense. You're already fine. It's important that your scratch heal. What else did they say?"

"They decorated me with an Order it seems. Here's the paper. The Order of the Red Star."

"Fellows!" Korotygin suddenly bellowed at the entire ward. "Kalashnikov's been decorated with an Order! And released!"

On all sides congratulatory cries rang out. Various feelings were stirred in the patients at Kalashnikov's words: joy for him, and excusable for men confined for so long to their beds, envy that he would be able to leave the walls of the hospital. Korotygin gleefully poked Kalashnikov in the side.

"Look happy, tankman! You must set us a good example. Soon we will throw away our crutches. We can't do soldier's work in bed." He leaned over and winked slyly. "But meanwhile, comrade inventor, you'll have time to show that it wasn't in vain that the command presented you with a watch." Korotygin took Kalashnikov's hand and deliberately listened to the ticking of his watch for a long time.

"You are up to something?"

"Up to something. Up to an automatic machine pistol!"

Kalashnikov was silent. Too easily he took to heart Korotygin's enthusiasm. It was not all that simple.

Time stretched out strangely slowly. At night Kalashnikov couldn't sleep. He lay with his hands behind his head and looked at the dark blue rectangular window etched with a frosty pattern. The warm gloom of the room filled with breathing, sleepy mumblings, gusty snores of twenty men, already seemed far away. Kalashnikov tried to think about the future, free from procedure,

conversations with nurses and doctors. He couldn't imagine it.

But then he closed his eyes and it seemed to him that he was in a tank. The machine gathered speed more and more quickly and flew, flew through fire and the rumble of explosions. Forward, forward! . . . To take revenge on the enemy for everything that had happened to his motherland! For the burned villages, the women's tears, the death and wounds of his comrades. Forward! . .

He opened his eyes and again saw the frosty lines on the window. Somewhere far off enroute he heard the sound of a train whistle. In the next bed Korotygin breathed loudly and turned noisily onto his side, the mattress springs began to groan plaintively. "No more tank," Kalashnikov thought with sadness. "And now what to do. Carry on just as if I were in a tank. Do you hear?"

In the morning he went around to everyone even those he knew only slightly and said goodbye. He thanked the doctors and nurses. In the office they wrote out his papers. He went to the storeroom and changed his hospital gown for his usual service shirt, breeches and new tarpaulin boots. They even issued him a new overcoat. With difficulty Kalashnikov threw his green duffle bag over his shoulder and with quick steps started down the stairs to the vestibule.

In the vestibule wounded patients were being admitted. The entrance door stood open, admitting orderlies into the room with stretchers. Waiting for the passage to be cleared so that he could leave Kalashnikov again looked at the arrivals. Here there were young and old, judging by their outfits mostly privates. Only a few of them looked around the vestibule propped up on their elbows; the rest lay without moving with their eyes closed. Evidently this was a batch of badly wounded men.

Kalashnikov noticed the appearance of one of them--a man with broad shoulders, completely covered with a grey cloth blanket. His head was almost

completely covered by bandages, only on the edge a bright red lock came out from under the bandage. Who did this man remind him of. Kalashnikov thought-- red hair and those strong shoulders. Where had he seen him, when? Up ahead there was some problem and the orderlies stopped. One in front shouted:

"What's going on there?" He didn't get an answer and slowly began to put down the stretcher on the cement floor glistening in the sun.

Kalashnikov called softly:

"Comrade political instructor Zolotov . . ."

The man on the stretcher started:

"What? I'm Zolotov. Who's calling me?"

"Comrade political instructor!" Kalashnikov went to the stretcher and dropped down on his knees. "It's I, Kalashnikov. Do you remember? You were our political instructor in the company."

Zolotov raised his hand. His fingers nervously squeezed the cloth of the overcoat as if checking to see if it was really true that there was a man leaning over the stretcher talking. "Kalashnikov? You're alive?" Zolotov said quickly. "Well, well I remember. The inventor. How is your instrument? You had gone off to the factory then and left us."

"The instrument isn't finished. The war. How about you? We heard nothing about you. Ran into some of our men near Kharkov, senior lieutenant Malyshev and others . . ."

Zolotov turned sharply and raised his head:

"Malyshev? Where?"--a severe pain rushing through his strong body apparently made it impossible to finish the phrase. He gritted his teeth and lay quietly for several seconds. Then again he spoke but barely audibly: "So where is Malyshev? I, brother, was completely separated from them and for a long

time . . . Not long ago they set fire to my tank . . . I was burned badly. I can see nothing . . . You, Kalashnikov, speak, I'll listen." He ground his teeth.

Kalashnikov didn't know what to say about Malyshev. His thoughts were confused. He was afraid to upset Zolotov and at the same time he felt that he couldn't lie to him.

"Senior lieutenant Malyshev is dead," he said finally, softly and slowly.

Zolotov was silent. His hands lay unmoving on the blanket. Kalashnikov became frightened. He'd never seen this. It was indeed the same fear and weakness and grief of a man stabbed in battle.

"He died a hero," Kalashnikov said quickly so that the silence around them would be broken. "His machine was set on fire but he continued over the terrain and blew up with a German tank. And Kuchum--you remember him from our crew--the German's shot him."

"Shot him . . . and Volod'ka Malyshev, you mean, he's dead . . ." Zolotov spoke as if he were a long way off. "Such a man is dead . . . I just saw his family recently. Valya and Serezhka."

The head nurse came into the vestibule from the street with an overcoat thrown over her uniform. She shivered from the cold and seeing the stretcher lying on the floor began to scold the orderlies:

"What is this? A badly wounded man on the cement floor? Who ordered that?!"

The orderlies picked up the handles of the stretcher. Zolotov said softly:

"Don't be angry, sister. The comrade and I have met for the first time since the war broke out. He has told me such things that right now there should be no noise. Take off your hats and be silent."

The nurse dropped her eyes and didn't say anything. The orderlies slowly carried the stretcher into the corridor. Zolotov asked:

"And what are you doing Kalashnikov? I forgot to ask."

"I was wounded. But now I am released. I received a six months order to rest."

"That means your wound was a serious one, yes?"

"They say, serious."

The orderlies walked with slow steps. They approached to door of the receiving room. Kalashnikov was forbidden to go any further.

He hurriedly said:

"You get well, quickly get well . . ." The orderlies stopped at the door itself. "It is your job to get well quickly. You must get back to our unit to fight."

"That will be hard for me to do," Zolotov answered, "difficult. But I will try. What you say is right we must get back to our unit. We have much more work to do . . . And you, what will you do while you're on leave?"

"I don't know right now."

"Why don't you know? You know you're an inventor. You need to find work. You can be of great service to the whole front."

"I've been thinking of something," Kalashnikov answered embarrassed.

"Well what?"

"I want to make an automatic machine pistol."

"You're a wonderful fellow. Dare to do it. Without work there is nothing. Give me your hand."

Kalashnikov held out his hand. Zolotov's fingers pressed it tightly.

"Write to me Kalashnikov. You know the address."

"Without fail . . ."

The white door opened and the stretcher passed on into the darkness of the corridor.

Kalashnikov went out onto the street. The bright sun hit his eyes. The snow sparkled blue in its rays. A string of carts passed with the squeak of the runners. Columns of steam rose up from the frost-covered nostrils of the horses.

As painful as his encounter had been with Zolotov, Kalashnikov felt that it had given him strength. It was especially good for his soul to know that there was someone on earth who believed in him.

Kalashnikov pulled down his hat, straightened the lines of his duffle bag and walked in the direction of the station: now for the road, south to Alma-Ata.

An Old Friend

Homes of depot workers stood along the railway lines. Around the homes on the edges of the courtyard clung little sheds. In summer they slept here, escaping the heat, in winter they stored firewood here, unneeded goods, made things required for the household. Some of these villagers busied themselves with making buckets, troughs, tubs for boiling linen, on the side. At the beginning of the war these salable goods went to market. One could get money for them or even more important, products. In comparison with other inhabitants the rations of railway workers were larger, and lasted for a short time.

Zhenya Kravchenko--a driver who worked at the depot as a lathe operator and milling-machine operator, for "mercenary work," was not occupied. However the shop in his shed behind the house was excellent. On one wall

stretched a modern metal working bench with huge vises screwed tightly to its padded iron cover and many boxes underneath. In the corner stood a small drilling machine painted bright green--also belonging to the depot. And beside it a large sharpening disc, which threw out orange sparks when operating. On the wall, in special niches there were files, drill cores, scrapers, knives, hammers. There were several kinds of hammers--from heavy mallets to small, claw, a small hammer which Zhenya deftly operated when necessary to "go on striking" like a running train.

This morning Kravchenko had gotten up very early and disappeared into his small shed. The shift began at four, and he wanted to be at work making a device for the lathe machine which in his opinion would cut down on the work by one and a half or two times. In the morning at the depot they had received for urgent repair a military ambulance train badly damaged by bombs and the komsomol brigade to which Zhenya belonged had agreed to do the work as a rush job.

The train whistles from the rails mixed with the brisk blows of the hammer. Looking at the edge of the saw, evenly cutting the edge of the metallic strip, Zhenya thought about the work at the front: "Those fascists will get what they deserve!"

He took a powerful swing at the chisel which instead of leaving a smooth cut left a rough wire edge. "They will!"--he said out loud and gripped the hammer even more firmly. The chisel moved and the wire edge fell away and again the metal slipped smoothly.

At the door he heard his mother's voice:

"Here is someone, Mishenka, who works in your cell."

"Who's come already? They can't have finished work," Kravchenko was

upset and having laid down his hammer, opened the door of the shed. He couldn't believe his eyes: before him in full military uniform stood Kalashnikov-- Misha Kalashnikov from his political section of the railway, with whom he'd not been close but had accepted as a good friend. He somehow looked very independent standing in his overcoat and hat with the red star with his green duffle bag thrown over his shoulder.

Kalashnikov smiling walked forward to meet him and they embraced. As happens in these cases they began asking all sorts of questions not very distinctly: "Well how are you?" "And you?". Then they went into the shed. Zhenya climbed up on the workbench, continuing to look at his friend.

"Well, you, you're a tankman! Overcoat, insignia --everything in place. Well, tell me about yourself."

Kalashnikov waved his hands:

"I was in the army as a driver. But about this later. Right now there's work I have for you to do."

"Work for me? Interesting."

"You understand," Kalashnikov rolled his gloves in his palm looking for the words. "I'm only just out of the hospital. I'm on leave--sick from a wound. I decided to return to Alma-Ata in order not to waste my time to make a new type of automatic pistol. It is needed badly at the front. I've already devised something. But on paper it's not all clear, and I need to build a model. That's where you come in."

Kravchenko jumped down from the workbench and paced around the shed.

"An automatic pistol? A new system? That's great! Of course I've no time to spare but I'm ready to help you all the same. And here's my "factory" at your disposal. Look, the furnishings are great!"

"I see. Only there's one thing we can't get around. We need machine tools."

"Machine tools . . . there are none, there are none. Well except for the drill."

"But what about the depot shops?"

"In the depot . . . the boss would have to give permission."

"And do you think he will?"

"Of course our work is such," Kravchenko stroked his adam's apple with his hand. "But you can speak for the front. They will think of something. In any case we in the komsomol will support it. You can explain better what your idea is."

Kalashnikov took out a notebook bound in oilcloth from his overcoat and began to explain his idea. Now his conversation was more definite than it had been in the hospital with Korotygin. And also Kravchenko, a metal worker, didn't need such a detailed explanation--he could grasp the idea of any mechanism in a flash.

Looking at the drawing, spread out on two notebook sheets, and hearing an explanation of them Kravchenko found out that Kalashnikov had rejected the design of the Degtyarev and Shpagin automatic pistol machine guns. The principle of the action of the proposed automatic weapon would be like this: a free breech block moved because of the force given it by the recoil spring. The caliber of the cartridge would be exactly 7.62. But smaller than the length of the weapon, instead of a heavy drum type magazine--a circular one--he planned a pronged magazine, a simplified sight. All this came from the designer with the sergeant's insignia who was standing beside him: to make an automatic weapon half again as light as the existing one and simpler for mass production.

"Ye-e-es, Kravchenko drawled when the explanation was ended. He still didn't know how to express his opinion of what was shown.

"You understand," Kalashnikov said hurriedly, "there's no time, to draw up everything carefully. Yes, and I can't do that. We need to make a test model. Can you do it right away? I read somewhere that Hiram Maksim in five years made a good design from parts of his machine gun and a simple instrument."

"In five years the war will be over."

"Yes, but he made a machine gun and this is an automatic pistol. There are fivetimes fewer parts. In any case we must try."

"When do you want to start?"

"Right now."

"Right now I can't. The shift is at four. Then we must go to the depot together. And in the meanwhile I have to repair something. An extractor for a bushing. Today for my shift I have to get them turned on the lathe. Thick bushings for the hospital train."

Kravchenko turned the vise hand holding the part. Kalashnikov looked at his watch. It was only just twelve o'clock.

"I'll help you," he said and took off his overcoat. "I need to get used to the tools."

The man in charge of the depot had a grey, tired face. Listening, he looked sideways and automatically doodled with a pencil on the edge of some kind of graph. From this it was hard to know what it was he was thinking whether he would agree to help or was looking for gentle words to refuse.

Kalashnikov hadn't finished talking yet when the door to the room opened and a man in a greasy smock came in. This was the party organizer for the depot. Not saying anything he sat down in an armchair standing to one side,

near the table of the man in charge and began to listen with an expression as if he knew what they were talking about.

The depot director kept his same attitude. One edge of the graph was already filled up and he began to doodle on another.

Having laid out his request Kalashnikov was silent and sighed deeply. What would the answer be?

"Well, we can, Stepan Vasilevich?" asked the party organizer. "Kalashnikov has sometimes worked here in the depot. We've admitted him into the komsomol."

The depot head looked at the party organizer.

"And if he'd been at the depot in Moscow--had done sorting work?" he was silent and unexpectedly said: "I think even then we would have had to help him, yes?"

"What a crabby fellow that depot director is, Kalashnikov thought. He's quiet and he's already made up his mind." He wanted to get up and shake hands with the boss. But he turned away again and said in an aside:

"Only we don't have any machine tools that are free. And we can't give up any people for them."

"We can resolve that with the machine tools," said the party organizer "without it doing any harm to the work. It can be done in a few minutes. And people don't need to be especially assigned. Zhenya Kravchenko can work with his friend, Comrade Kalashnikov."

Kalashnikov looked thankfully at the party organizer. He seemed to know about everything! Zhenka had told him that there were good people around! No doubt about that . . .

Apparently, considering the conversation ended, the depot director got up and shook Kalashnikov's hand:

"Go ahead. As regards material I'll order it. And if one helper isn't enough say so. We'll think of something."

Zhenya Kravchenko had an amazing ability to quickly put into metal something that was a mass of lines on a piece of paper, with lines showing the dimensions and numbers. And if the part was simple enough he could have it on the desk where Kalashnikov worked on his papers before he'd even drawn a diagram of it.

The work was absorbing, but difficult. For many days they struggled with the breech block--they couldn't get its position right for the firing action. Several times Kalashnikov redrew the receiver, making a paper silhouette of the cartridge. Finally he understood what to do: the drive of the breech block was not big enough.

Having figured out some kind of new dimensions, Kalashnikov ran to the cupboard where all the prepared parts were kept. Kravchenko was busy: his shift was in full swing. He went to the free vises at the corner of the shop and began to attach the breech block again to the frame. The work went well so that he didn't notice how dusk was thickening outside the window, as he lit the light in the shop.

Kravchenko came in behind him.

"Interesting, what will it be?"

"A new variation of the receiver," answered Kalashnikov continuing to use the hammer. "I think I've finally got this damned receiver!"

"What about your arm?"

"What arm?"

"Yours, the wounded one." Zhenya scowled and took the hammer from Kalashnikov. "You think this is good medical treatment. In another day it

will be time for you to go back to the hospital."

Kalashnikov was silent.

Zhenya walked over to the vise. What good he would do this minute! His clever glance slid over the smooth surface of the part, his hand held the instrument tightly: he knew what to do. Kalashnikov only marked a groove in the breech block and moved it forward--that was how it must be. Zhenya nodded.

The bell-like notes rang from the blows of the hammer, he grabbed the file, it sang its own simple rhythmic song: zhik-zhik, zhik-zhik. . . ten minutes passed. Large drops of sweat stood out on Kravchenko's forehead. In a second he turned and winked slyly:

"How long did you say it took Maksim to make his machine gun?"

"Not a machine gun, but parts for an automatic weapon."

"It's all the same, how long?"

"They say five years."

"Then it's not terrible."

"They both laughed.

It would not take them five years. They would need it sooner: after a week, a month, at the very most three months.

And so it went. It was just three months and a day since Kalashnikov had come to Zhenya's shed, and on the table of the depot shops there lay a prepared model of a machine pistol. In turn the firends picked it up in their hands, and for a long time with delight smoothed the polished butt and turned the barrel to the side, pressed the trigger. A click was heard and a spring with force threw the moving parts forward.

"Well, it works," Zhenya repeated again. "Well, it's real."

"Yes, yes," repeated Kalashnikov and his hands again were drawn to the automatic weapon. His thoughts which crowded into his head were not about how much time since he'd gotten the idea, put it with a pencil onto sheets of paper even with the prepared parts on the metal work bench. This was a machine which actually worked in precise interaction, a machine which lived independent of the man who made it and had a secret life of its own. Truly, it was not a real weapon, but only a model. It couldn't be made from this metal, but it was all very well for the first time. Well, all the same!

The news that Zhenya Kravchenko and his "tankist" had finished work on the automatic machine pistol somehow spread like lightning through the shops. The first to arrive was the welder, who more than once had given friendly advice on alterations and adjustments for the machine pistol. He turned the model around for a long time in his huge hands, holding it in the light and evaluating the quality of the work. His face covered with scanty whiskers, singed by the electric welding rays, was serious. Finally he laid down the automatic weapon on the table and said in his bass voice:

"Well, thank God that sometime the fascists will be shot with this piece when its needed. It will serve well. You must quickly take it to the military command so that further work can be started. So?"

Neither Kalashnikov nor Kravchenko was able to answer. The door opened and they were surrounded by a whole crowd of workers. Immediately it was noisy and jolly. The party organizer of the depot elbowed his way forward. In his turn he inspected the prepared model, then passed it to other hands. And as if they were speaking together repeated what the welder had said: "You must move the work on further," "It's needed at the front." The sweet music of these words sounded in the ears of Kalashnikov, strangely he wished that

by some miracle suddenly Vederkin, Kuchum, Palin, Captain Miroshnichenko, commander of the company Malyshev and political worker Zolotov could all appear. They would look at the model and be joyful along with him.

But along with this came the worry how to carry the work out to its completion? And in general what needed to be done further. With the counter it had been simple: they looked at it, then sent it to the district command. And then to the institute, the factory. Everything had gone smoothly . . .

Kalashnikov wasn't able to decide anything. The party organizer demanded quiet. Everyone was quiet suddenly and just as if he'd called a meeting he congratulated his friends on completion of the work. Zhenya Kravchenko stood up on a bench and spoke gaily:

"I want to make this clear: your congratulation belong to this man," he placed his hand on Kalashnikov's shoulder. "The ideas were his, I was just his helper in the technical plan. My job was small but I won't hide it, it was important!"

Everybody laughed, someone clapped. Kalashnikov got red from embarrassment. He wanted to say a great deal but managed to say briefly:

"Thank you, comrades, all of you. Thank you."

Soon they all left. Zhenya went out throwing back his farewell: "The best method for carrying the work forward is not to put it off until tomorrow. Travel, my friend, to the city."

The words are true. Kalashnikov locked up the model in the cupboard, put on his overcoat and walked to the entrance.

State Work

"Where should I go, thought Kalashnikov--to the town committee? They could help. But would they be able to with my work? I'm military. He

stroked his beard with his hand. Aha, the military. Well, I must go to the military registration and enlistment office."

He walked more quickly. Not waiting for the intersection, he dodged between stopped automobiles, jumped ditches full of murky cold water. From afar appeared a porch with a red sign over the door. There was a crowd of people on the porch. Here there were elderly people, sedate fathers of families, and young greenhorns, who hadn't yet finished tenth grade. There were many people on the stairs. The workers of the military registration and enlistment office tried to move with difficulty among them, carrying documents: cases of papers of personnel work from floor to floor.

Kalashnikov grabbed the elbow of a grey-haired captain with glasses who was going up the stairs.

"Comrade captain, who among you is involved with inventions?"

"Inventions?" the captain was surprised. "We don't have any one here, comrade senior sergeant. This is a registration and enlistment office."

"But does anyone here have connections in general with industry, with factories?" persisted Kalashnikov.

"You probably need the section on work devices. Second floor, room twenty-one."

Kalashnikov wanted to thank him but the captain had already disappeared. There was nothing left to do but go up to room twenty-one: perhaps they knew better there.

The section on work devices occupied a small semidark room filled with cupboards and desks. Besides the senior lieutenant who was writing in a thick book, like an account book, there was no one else in the room. There was a smell of coarse tobacco, the senior lieutenant smoked incessantly. He couldn't

seem to understand what this quiet senior sergeant wanted from him.

"What? What model, what work? You, why aren't you with your unit?"

Kalashnikov took off his overcoat and took his papers from his shirt pocket. The senior lieutenant took them and studied the medical information for a long time, and several times looked from the photograph in the Red Army book to Kalashnikov and back again.

"What is it you want?" the senior lieutenant finally said. "You are on sick leave. You're not supposed register for work."

"It's possible, temporarily. I'm working on a new model of a weapon. I've already got something made. Now it needs a factory base so that the work can be completed."

"What kind of a base, my dear fellow? You have not yet recovered. The doctors, apparently, were not joking." The senior lieutenant threw up his hand and sat down making it clear that the conversation was ended.

Kalashnikov made one more try:

"But do you have here anyone who is acquainted with such things?"

"What, you don't believe me?" The senior lieutenant was angry. "I explained clearly to you: you are not supposed to register. Go rest. And when your leave ends we will call you." He dipped the pen into the ink bottle and began to write.

Kalashnikov turned and went out the door. He was angry at the registration enlistment office but deep in his heart he felt that it couldn't be otherwise: orders were orders.

The weather had cleared. The puddles were blue reflections of the clear sky overhead. The bark on the trunks of the poplar trees drying out were turning green. At the end of the street someone was playing the harmonica and one could hear the sound of a girl's voice singing the fragment of a

chaatooshka¹:

"My love will not finish
This summer at the institute
He is gone to war--
It's all up with Hitler."

Kalashnikov for several seconds looked at the procession approaching the military registration and enlistment office. Then he decided: he must go to the town committee.

Again before his eyes there extended a line of corridors, doors, desks covered with bright paper. The people who sat behind desks were up to their necks in work. Kalashnikov didn't even see how they'd be able to break away from their papers and telephone receivers long enough to talk with him. But all the same nothing sensible came from these conversations. Even the managerial industrial section which received him after he had waited in line for a long time could only give him hope: "Come back in about two weeks. We'll have our work untangled and be able to do something suitable."

"About two weeks!" That amount of time seemed to Kalashnikov to be impossibly great. Given the right conditions he would have time to manufacture an entire model. But at least it was clear he would have to take the trouble to do something more.

Kalashnikov sat on the windowsill in the corridor, aimlessly looking at the people all around him. He didn't leave as if he were hoping for a miracle: as if someone would come up to him and say: "You need equipment--milling machine and lathe machines? High-quality metal? Please! I am the

¹Translators note: two-line or four-line folk verse, usually humorous and topical, sung in a lively manner.

director of a factory and with pleasure I offer it to you for your work.
What is your name?"

Kalashnikov laughed sadly: what an idea! He stood up and straightened the belt on his overcoat. He must go.

Some man in a black hat rushed past, but then turned:

"Who am I seeing? Kalashnikov! Yes, yes, our technical secretary, Misha Kalashnikov!"

It was hard to believe his eyes. It was Iosef Nikolayevich Koptev, before the war assistant to the director of the political section for roads in the komsomol. He bombarded Kalashnikov with questions, gaily squeezed him and at the same time succeeded in throwing greetings to the people passing by in the corridor. Judging by the respect which these people paid to Koptev he was of considerable importance.

"You are still there at the political section, Iosef Nikolayevich?"
Kalashnikov asked sharply.

"I've gone higher," laughed Koptev. "You're not the only one who wants to get to higher ranks?" He clapped his hand on the insignia on his friend's overcoat. "Well, what are you doing now?"

Kalashnikov hurriedly told him all about what had happened at the military enlistment and registration office and at the town committee. He was afraid that Koptev wouldn't be able to hear him out. This explanation came out confused and not very clear. Koptev frowned:

"I understand the essence of your work, but how about you tell me the details this evening okay? But are you busy? Maybe another time. Or do you have urgent work? I remember that it was a habit of yours to always be in a hurry."

"Yes, yes it's urgent," agreed Kalashnikov. "It is work for the war."

"The war," sighed Koptev. "Then come at nine o'clock. I still live at the same place on Uzbeksky. Do you remember?"

"Of course, Iosef Nikolayevich."

"But now let's go."

Koptev turned and quickly walked along the corridor. Kalashnikov walked just behind trying not to collide with the people coming toward them.

They stopped at a door with a sign "Secretary of the Town Council." Koptev with a calm gesture opened the door and walked into the room. He wasn't there. A secretary got up from her place and greeted Koptev, said that the secretary had gone out.

"I didn't come to see him," answered Koptev picking up the telephone. "I want to make a phone call from here."

Kalashnikov listened to Koptev's words. He talked with some worker, asked him to receive Kalashnikov.

"Valyusa," said Koptev to the secretary. "How can my comrade reach the Central Committee quickly? Do you have a "god" for us in this section."

The secretary smiled:

"There's a vehicle going there right now."

"Splendid. You go then Mikhail," Koptev said. "I spoke with the Secretary of the Central Committee for industry and he promised to receive you and help you. Only hurry, he doesn't have much time."

From then on everything was like a fairy tale. The town committee "Emka" with its doors rattling traveled through the streets and dashinglly braked at the entrance to the Central Committee of the Communist Party of Kazakstan. Kalashnikov got out and climbed up the broad stairway to the reception room.

He didn't have to wait there long, he went into an office and stopped. A man in a blue wool service shirt sat behind the desk. He looked at the visitor with eyes narrow, even raised at the edges.

Having called Kalashnikov by name, the man got up and shook hands and then invited him to sit down. Remembering that the secretary had little time, Kalashnikov repeated the words which he had uttered to Koptev in the corridor of the town committee. The secretary got very little from this. He asked so many questions that Kalashnikov had to begin at the beginning and explain everything more carefully.

The secretary smiled and ran his hand over his dark smoothly combed hair.

"Well now it's clear, Comrade Kalashnikov. And it's clear that you want to do something great and important for the motherland. It's right that you've come here: a single person couldn't cope with this. But how is your health? It won't be damaged by this work?"

"Of course not," Kalashnikov jumped up. "I feel fine."

"Well, okay, don't get excited. I will be your partner," smiled the secretary. "How do you think it would be to do the work in a Moscow Aviation Insititute shop? Its been evacuated now right here to Alma-Ata. It's a good base and there are sensible specialists. Do you agree?"

"Of course I agree. You understand I need machine tools, although very simple ones, and mainly material."

"I think that will be there," said the secretary and pressed a buzzer.

A lively woman came in and the secretary asked her to write a memorandum to the MAI [Moskovsky aviatsionnyy institut Moscow Aviation Institute].

The typewriter quickly rattled out the memorandum. In just a few minutes the letter appeared in front of the Secretary of the Central Committee. Tucking

the paper into his shirt pocket, Kalashnikov hesitated at the desk.

"You need something else?" asked the woman, raising her thin eyebrows.

"You don't know by any chance where Comrade Koptev works now, do you?"

Kalashnikov asked quietly.

"Iosef Nicolayevich? He works at the Commission of the Party Control for Kazakstan. Anything else?"

"No, nothing. Thank you. Goodby."

They met the unknown tankman at the institute as if they expected him. One of them was especially serious. One would not think right off that this is the dean. He stands at a model and adjusts something with a screwdriver.

Kazakov, as the dean was called, sat for an hour and a half with him at the table. He tried to grasp everything, like Pakin, only wasn't angry with it. He liked the diagram. He said it was only necessary to make a calculation for strength, although it would be elementary. The students would help.

Rain began to drizzle from the dark sky. Somewhere far off beyond the fence a dog began to bark. It echoed along the alleys. Kalashnikov walked faster; he was not anxious to meet anyone, as if an accidental encounter could take his joyful mood away from him.

As luck would have it he ran into no one. Everyone seemed to be sound asleep in his house, rocked to sleep by the lulling rain. Even the dogs didn't bark any more. He walked along several streets, then heard the roar of a vehicle. "It's on the highway," thought Kalashnikov and turned the corner.

Machines, not slowing down, passed him. The white light of the headlights caught the bare trunks of the poplar trees in the darkness. They were very bright, Kalashnikov screwed up his eyes when a machine passed.

Just then he ran across a truck standing beside the side of the road--a new ZIS-5 with a military plate. The driver lay across the fender in his overcoat and garrison hat and tinkered with the motor.

"Is it burning?" asked Kalashnikov.

The driver turned. A machine passed, by bathing them in white light.

"Ah, colleague," said the driver and again turned back toward the motor.

Kalashnikov was surprised: he'd never heard this word "colleague" used. He'd seen it only in books. When a doctor or a professor spoke to another. But from one soldier to another . . . Miraculous!

He went closer to the machine. The driver slammed the hood and began to whistle--in a gay and carefree way.

"Where are you going?" he asked. "Get in, I'll drive you."

"I'm going to the depot. It is on your way?"

"For a driver, if he wants, it's always on the way. Get in."

They climbed into the cab. The motor roared, the transmission scraped and the truck moving along the highway bouncing over the wet cobblestones. In the wind glass, the "yardkeepers" danced about crazily. The driver whistled, looking sideways at his passenger. Soon he couldn't stand it:

"Why are you smiling so much? Are you getting married in the morning?"

"What's this about weddings?"

"Yes, I see, one meets a soldier in the night, it is enough. But usually it involves a love affair."

"That's not true with me," answered Kalashnikov and leaned back in the corner of the cab. "For me, you see, I have work at hand that's as difficult as can be, but interesting and needed. But I don't know about the other."

You've made up your mind on that?"

"I, colleague, have already made up my mind long since. The twenty-second of June, 1941,"--the driver said quietly, tapped the gas and turned to Kalashnikov. "You hear?"

Kalashnikov had noticed that the driver several times scraped the edge of the sole of his boot over the metal floor of the cab, which he didn't understand.

"You hear, it knocks?"

"Well?"

"You don't understand. They knock differently for me. Maybe because of the motor right now, you can't hear it. The left knocks more quietly because it's mine. And there's no right foot: it was shaved off by a shell. Instead it's an artificial foot."

"Well?" Kalashnikov asked again.

"To be sure, well. This four-eyed devil--the doctor wanted to discharge me with a white ticket, but I wouldn't give up. What a fellow! You see the lapels on me--honor upon honor." With these words he turned the steering wheel so sharply that it seemed to Kalashnikov that the truck would leave the cobblestones and fly into the air.

The driver, as if nothing had happened said:

"I told him that their artificial limbs would never stop me!"

"Fine fellow!"

"What do you mean, fine fellow?" The driver was somehow offended. "On the Leningrad front I was the first driver. I'm being wasted on this freeway driving someone to an office. Just send me back to the front, my friend!"

"Then you are not a fine fellow, but a hero."

"What, a hero! You talk to me about heroes!" The driver was even more offended. "You are laughing?"

"These aren't things to laugh about. You are a hero."

"Okay! And do you get out here or do you want to go farther!"

Kalashnikov looked around. Through the glass which was splattered with rain on the cab he could see the fences of the depot settlement along the side of the road.

"Let me out here."

The driver braked sharply. The truck quivered and stopped. Kalashnikov jumped out of the cab and stuck in the mud washed away by the rain.

"Thank you for the lift. Goodby," he said to the driver.

"Goodby," came back from the cab. "Joker!"

The machine turned and went back along the highway.

"He didn't even need to come this way," Kalashnikov thought admiringly. What a fellow! He managed to get out of the muddy cobblestones and walk forward.

Along the tracks a train maneuvered jerkily. With the sound of the railway cars banging into each other the bells of the train were ringing as if it were a relay race. The train whistled once more, and another bell responded to its tone and completing this symphony of the nightmen's work, the switchman's bugle sounded at length.

Kalashnikov listened to these sounds as if they were beautiful music. They were carried off by a howl of wind and deluge of rain, which drenched everything around. There on the tracks people did their work in spite of the night, the cold and fatigue. Somewhere far off driving in his ZIS was the driver with the strange unruly footsteps. He also was doing his job. And Kalashnikov began to rejoice in the fact that he was a member of this

restless family of people. He also would continue his work in the morning. And it wouldn't be easy. But easier than the work of the switchman, the drivers, the machinist maneuvering the "Sheep"? And all this together truly was for the end result of soldiers working together on the front and would result in victory.

On the porch, before he unlocked the door with a key which Zhenya Kravchenko's mother had given to him beforehand Kalashnikov lit a match and looked at his watch. It was half-past two. He thought with disappointment that his friend would be asleep and there would be no one to tell about his day. And then he hoped that these days wouldn't occur too often in his life.

Part Three

The Letter

"No, just look at what a beauty!" metalworker Victor Gushchin danced from joy. "Was there ever such a factory thing? The polishing, what polishing!"

Kalashnikov looked at his comrade with an expression on his face which reminded one of a woman permitted for the first time to hold her offspring.

Victor pulled back the breech block and squeezed the trigger listening to the sharp metallic sound. Kalashnikov also wanted to click the breech block, but he held off: let Victor enjoy it. He had contributed a lot to the machine pistol. They had adjusted it together in the evenings. He was a seventeen-year-old boy, yesterday's craftsman, and looked at his machines as a pianist at a piano. Oh, too bad that Kravchenko wasn't there--he would have been happy too. That morning when Kalashnikov had left for the shop, Zhenya had stood for a long time at the door, turned his hat in his hands and finally said: "I can't go to work on the automatic weapon today. New equipment has come for the machine at the depot and they can't manage without me." And so they had parted . . . each to his own work.

Kalashnikov looked at the weapon. All of the workers in the shop watched. And everyone smiled. Even the director of the laboratory had exchanged his usual acid expression for a smile.

"Well now we must test it, yes?" he said jollily.

"Of course we must," Kalashnikov took the automatic weapon from Victor's hand, "until then it's just a toy."

"Well, let's try it! We must try out the toy. Let's go test it."

"But where?"

"Here not far off there's a firing range," Victor said with enthusiasm.

"Mikhail, may I go with you?"

Kalashnikov nodded and began to wrap up the machine pistol in a piece of tarpaulin. Gushchin rushed to help. Two other metal workers were called to go for protection.

Kalashnikov felt the enthusiasm take hold of him more and more. What would he have done without the help of these people who were now wrapping up the automatic weapon in a grey tarpaulin?

Each one had helped as he could. Victor had brought one of the old workers who for fourteen years had loaded machine gun magazines on "Farmans" and had let him have his own bed in the institute dormitories; the man had helped for two days to adjust the feeding system. And the director of the laboratory? More than once he'd come up looking out from under his shaggy brows and offered material: "Well, this steel is excellent." No, he couldn't have done it without them!

They walked for a long time along side streets and then came to a vegetable garden. Under their feet last years brown grass spread softly. Underneath it the spring crop was already showing: spring was near.

In the distance the sound of shots echoed hollowly. Victor stopped behind a barrow.

"Here we are."

The firing range spread out in a shallow gully. In dugouts open to the line of fire, marksmen lay in a row. Not far off those in formation recorded and kept score.

A tall captain with large hazel eyes welcomed them with a not very friendly manner. Victor went up to him slyly: he showed his institute passport and waving the papers under the captain's nose began to quickly

chatter about certain state orders and requirements for strict testing of an important model which had just been repaired at the shops. The other metal workers supported their friend. The captain, overwhelmed by the words, agreed and gave an order for the two end dugouts to be emptied. Victor in the end screwed up his courage and asked that all shooting be stopped for a time.

The displaced marksmen went over to the side and began to talk, watching as Kalashnikov unwrapped the tarp.

Victor was excited. He looked Kalashnikov in the eye and with his voice breaking he asked:

"Give it to me first, Mikhail . . . who knows what will happen."

Kalashnikov laughed: "And what do you think will happen?"

"It could explode suddenly. I, you remember, did incendiary work as a boy--it exploded. See," he pointed with his dirty fingers to a small scar on his chin.

Kalashnikov checked the magazine case several times to see that it was firmly seated and said:

"It's strong. Will the machine pistol work, that's the question."

The captain was getting uneasy:

"Hurry up will you, fellows? This is very irregular."

"Right away." answered Kalashnikov and lay down in the dugout.

A level area like a table spread out before his eyes. In front of it a white paper target with a dark green silhouette of an enemy soldier. Shoot?

He held his breath and squeezed the trigger. Shots cracked sharply. Behind him Victor shouted. Kalashnikov pressed again, again the shots. And suddenly they stopped. He looked at the trigger lock in bewilderment--

the machine pistol was silent.

"What happened?" Victor asked anxiously leaning over him.

"Probably the cartridge case stuck."

"Let's look."

Kalashnikov unfastened the magazine, pulled back the breech block. There it was: the cartridge case was sitting in the chamber. With difficulty he freed it from the opening. What could have caused this? Well, then. He didn't have to try again.

Again the shots echoed. In short rounds Kalashnikov shot up the entire magazine, not paying any attention to Victor's cries to give him a turn. It would have taken more than human strength to give up the machine pistol to someone else.

As usual, Victor's face didn't keep its expression of annoyance for long. He helped Kalashnikov out of the dugout, and was already dancing for joy. The captain was amazed:

"Hey, what dance are you trying? It came off well!"

"You don't understand anything. This isn't a series of machine pistols. He thought of it," Victor pointed to Kalashnikov.

Kalashnikov was not pleased with the bragging of his friend. He looked at him sternly, put the strap of the machine pistol over his shoulder and silently went over to the target. Quietly Victor, the captain and the metal workers came along behind.

The sun came out from behind the clouds. The silhouette on the target sparkled. The edge of one of the sheets was covered with fresh holes like a sieve. Kalashnikov's heart missed a beat--from the machine pistol! He went up to the tarpaulin covered wall and took hold of the target: a sudden gust of wind caught it and almost knocked it over.

"Well, young fellow!" said the captain. "You've done it yourself. And tell me, how does it shoot!"

"Let us know," Victor supported the captain.

Kalashnikov tore off the target with the holes and stuffed it in his pocket. Four pairs of shining eyes looked at him. He smiled and sighed deeply.

"The beginning is nothing."

"What beginning?" said Victor surprised. "Everything is in order: it shoots. And you say the beginning."

Kalashnikov playfully pulled Victor's kepi [hat] down over his eyes.

"It's very dangerous in life to think you are the cleverest in what you do, the best in the world. Let's go on back. There are no more cartridges."

Victor sniffed and straightened his kepi. They picked up the tarpaulin and left the firing range. When they climbed up on the slope of the gully, behind them they heard the captain's voice:

"Hey, friends wait!"

He came up to them quickly, but was so out of breath that he couldn't get the words out. It became clear why he was here, for pre-conscripted shooting: not an officer with troops.

"I was thinking that," finally the captain said. "We have the right to decide on the weapon? It is no joking matter--to make a machine pistol."

Victor looked at Kalashnikov with alarm. Such a question also would result in a deadlock.

"Maybe we should go with you to unpack them?" persisted the captain.

"Well no, that it." Kalashnikov said confusedly. "This is a test model. Then it will be made at the institute, officially."

"Look here--officially. Something seems very peculiar here."

"Didn't I show you my identification? I showed it," Victor supported him. "We have to go! We have work to do. Come on fellows!"

After walking about fifty meters they looked back. The captain was standing in the same place and looking after them. The sound of shots was heard from the firing range again.

Kazakov, having found out about the successful tests of the machine pistol proposed sending it to the commission for inventions. Kalashnikov spent two weeks sitting over drawings and detailed descriptions of the design. The commission at its first conference decided that an expedient evaluation of the new sample couldn't be done there and entrusted it to specialists who were in close touch with infantry small arms. The sample, the drawings and the description were sent to the Artillery Academy im. F.E. Dzerzhinsky.

For Kalashnikov agonizing days dragged on. In his inertia he wanted to get busy with some kind of weapon work, but understood that it would be a waste of time. His thoughts constantly were on the machine pistol. What would the specialists think of it?

Spring began to make itself known. In the mountains the snow melted and streams filled the irrigation ditches. Little boys tried to sail whole fleets of paper boats in them. Kalashnikov walked about the city from morning to night. The long pacing calmed him down and sitting somewhere on a moss-covered rock, it was easier to gain an understanding of the succession of thoughts that ran through his mind.

He often thought of the front. Echelons of troops were moved along the railway of the country day and night. The Urals and Siberia sent new tanks, cannon, shells, mines. Thousands of people--designers, engineers,

scholars all worked on them so that the equipment would be better than the enemies, so that there would be more of it.

Kalashnikov read everything that had been written about weapon designers Fedorov, Tokarev, Degtyarev. Sometimes he caught himself in thoughts which carried on an internal conversation within himself all the time: he asks, argues with something he does not agree with. He thought: it is right that I should compete with them? Surely now they are working on new samples. And the others--Goryunov, for example, Shpagin . . . they have the knowledge, the experience! But if it were only reason that moved inventors! Degtyarev himself had written about the "creative vein which gives a man no rest." Nowhere can he be free from it. And if it is there it persists . . .

Once, alone in one of the dormitory rooms, Kalashnikov put his notebook and paper on the windowsill and wrote at the top: "Hello, comrade political instructor Zolotov!" He wrote two pages about his everyday life, told about his work with the weapon.

He wanted to write about his feeling, but changed his mind. Zolotov's face came before his eyes. Not covered with burns, in white bandages, but as he had been before--jolly, with his noticeable gold freckles. At the end of the letter he tried to be cheerful: he expressed his wish that Zolotov would soon be well and that they could both again be on tanks at the front.

Spring came like a gust of wind. In two days the tall narrow poplars were covered with sticky leaves, the tops of the plane trees turned green there were fluffy branches of alycha [kind of damson plum] in the gardens. The sky was so huge and so blue it seemed as if there were no blue color left on earth, it had been all sucked up to the airy, sweet, warm heights. It was

hard to believe that under the same sky somewhere far from Alma-Ata war was going on.

Kalashnikov spent whole days in one of the department classes. He put his head into studying various automatic systems.

One day his calm was broken by the voice of a young draftsman, who also carried out the job of secretary to the faculty dean.

"Well, there you are! I've been looking for you. Kazakov wants you."

"Me? What for?"

"That I don't know."

Kalashnikov quickly gathered up his papers and went up the stairs to the dean's office.

Kazakov sat behind a desk, listening as two teachers argued. His face showed that he was concentrating. It seemed as if he were terribly interested in how the stormy conversation of the two elderly men who were carrying on like small boys would end. Having seen Kalashnikov, he quietly opened the desk, and took out two sheets of paper fastened together and handed them to him:

"Go read this. Then come back and we'll talk about what should be done."

Kalashnikov went out into the corridor, squeezing through the crowd of students and stood by a window. The top sheet of paper was stamped.

"Recall on the machine pistol --it was like a blow to the stomach. He quickly read through the neatly typed out words. His thoughts could not immediately grasp the meaning, and his glance automatically returned to the beginning. "Having looked over the description and by carrying out firing with military cartridge cases, rejection of the machine pistol (author Comrade Kalashnikov) was decided; the commission considers that there are no

advantages over existing automatic weapons in this model. For this reason it is recommended that further processing of this machine pistol is inexpedient." An ornate signature completed this ruthless text.

It seemed strange that after all this the sun was still shining, white clouds were still floating in the sky, and that the students could gaily play volleyball in the courtyard. Apparently things didn't always work out the way they had for the counter: he had read the competition instructions and made it; then the command office had called him and sent him to the factory . . . this doesn't make one a Degtyarev.

He slowly returned to the door of the dean's office. Kazakov was alone and writing something:

"You read it?" he asked not taking his pen from the paper.

"I read it."

"Well?"

"That's all."

"What 'that's all'?"

"It was wrong to fool people."

Kazakov hand was suspended in the air. The pen which he held halfway from the paper splattered drops of violet ink on the desk.

"And you read the second paper?"

"The second?"

"Attached underneath, head gardener. Read it! It's addressed to you personally."

The second paper was also typed. On top it said: "Dear Comrade Kalashnikov!" It was so unexpected that he couldn't restrain himself and looked to see who had written the letter. It turned out to be Blagonravov. Anatol Arkadevich Blagonravov himself, whose name he had so often encountered

on the covers of books on the theory of automatic weapons!

The letter struck a respectful tone. It was not as if it were written to some unknown senior sergeant, but to a man who was an old acquaintance. At first the scholar commented on the design of the automatic pistol, agreed that it actually was not completely successful and wouldn't do as a replacement for existing weapons. But further, further! "However, the model of the automatic weapon sent to the academy speaks to the obvious gifts of its author. You Comrade Kalashnikov, need to study and must continue work, because with persistent and stubborn work you undoubtedly will attain great successes . . ."

Kalashnikov reddened. Kazakov who had been attentively watching him asked: "You've finished reading?"

"I've finished."

"You know who Blagonravov is?"

"Its written here that he's lieutenant general, professor, doctor of technical science."

"But do you know what else? He is our chief theorist! To attain praise from a man like that--I don't know, what's better, that or recognition of your weapon. Let me shake you hand." Kazakov stood up. "The commission rejection was sent to me, but you can keep this letter as a keepsake. And make a decision about working further. You can always be a tankman, but our brother, a weapon maker. Also, I tell you there is no greater duty on earth!"

Kalashnikov walked along the empty corridors to the exit of the faculty building. He stopped in the doorway and blinked in the bright light. In the streets there was a gay tooting of vehicles. These mixed with the loud chirping of the crows.

Kalashnikov breathed deeply as if he wished to take in all of the singing spring warm air and laughed happily:

"I must be a weapon maker! I a weapon maker!"

A Cartridge Case as a Keepsake

A few days later Kalashnikov was called to the district military registration and enlistment office. He wandered along the corridors for a long time looking for room 212.

It turned out that he was not the first one there.

Finally it was his turn.

Behind the desk in the office sat a greying colonel in glasses. Having listened to Kalashnikov's words, he raised his tired grey eyes to him and pointed to a chair. Then he got up and walked over to the window, opened the casement wider. Standing there at the window, he began asking if Kalashnikov liked his military speciality as a tankist. This seemed strange: why ask that now, when there's a war going on? Kalashnikov answered briefly and directly: he liked it, he liked it very much. He was ready to go back on active duty.

The colonel silently walked around the room and lit a cigarette. The blue cloud of smoke gradually drifted toward the window.

"What would you say if I suggested that you do something else? It wouldn't be too bad to be with the invention bureau, right? Right now the district command is encouraging that you be sent there. I've heard about a new sample model that you've made."

"Just a model." Kalashnikov dropped his eyes, "The artillery academy rejected it."

"That's true. At the same time the academy writes that it would be expedient to use you as a gunsmith. And the invention section supports that. Tankmen are easy to train but an inventor . . . How about it?"

"I don't know. And then there's the war, they need me at the front."

"Well, when there's a war we certainly need gunsmiths. Of course, you won't be named head designer, but the work will be interesting. We want to send you to a test firing ground."

Kalashnikov felt his heart beat faster from joy. But then a tiny thought: how would he look his comrades in the face? A tankman hidden in the rear.

It was apparent that the colonel knew what he was thinking. He picked up a stack of papers on the desk and tapped them straightening the sheets.

"You are a military man and you understand that we can decide the question and issue the order. But you know we want to be sure that a man will work with his own will and this means he'll accomplish more. There, get ready to leave. I wish you luck."

Throughout the day in his service shirt pocket lay the letter and order to report to his new service location. It seemed that he was to go far off--to the central part of Russia.

The train would leave in the evening. Kalashnikov left the depot settlement in the morning, but he didn't see Kravchenko. He wrote him a note and took a car into town. In the institute shops he spent a whole hour looking for everyone and saying goodbye. The only one he didn't find was Gushchin. Kalashnikov was already at the door when Victor arrived in the shop.

"You've heard? Today we shot down twelve planes! Oh, they gave it

to those fascists!" Not caring about the inappropriateness of the scale of his news he added: "Just now near the station a truck drove into the drain. Another driver wanted to rush right by but I wouldn't let him. They pulled him out!"

Listening to Victor, Kalashnikov smiled. If everyone were like him how great life would be! He never argued, never preached and everything would get done twice as fast.

Someone far back in the shops said:

"You're the only one, Victor, who hasn't said goodbye. Mikhail is leaving us."

"True?" Victor was surprised. "Where?"

"To a new assignment in the service," answered Kalashnikov. "I'm not a free bird; it's been an honor to know you."

"Ah," said Victor disappointedly. "I think you and I together, we could all put together a new piece. Yesterday I read about something in a book." Victor's face was expectant. "You've heard about the small case shots? Nineteenth century, the first step toward the automatic weapon. Well I thought: such a small case shot could be used on an airplane! Well not a small case shot, of course, but shells, but using the same principle--ten rotating barrels."

"Not such a bad piece," someone said, egging Victor on.

"But what do you think." the youth continued with heat. "It solves the problem of viability of the barrels. It would be like a revolver only the rotating must be not of the barrel but of the cartridge case, and the entire block of barrels. If each fires and rotates, fires and repeats. And all the rotation of the piece can be done by the aircraft motor. And think

what a rate that would be--five or six thousand shots a minute!"

"Then the weight would be two tons, " put in a metal worker standing next to Victor

"It can't be two tons. One must simply make the cannon lighter."

"An interesting idea," said Kalashnikov thoughtfully. "However it seems to me that you can get these results if you put an ordinary weapon into the aircraft. But maybe its clearer to you. You're aviators and I'm a land force man myself."

"Of course, it's certainly clearer Vitka," the laboratory director noted ironically.

They all laughed. Kalashnikov went over to the sharpening disc and turned on the switch, took a piece of wire and fastened its end. Then he reached into his pocket and took out the cartridge case, the one which had stuck in the test automatic weapon on that memorable day. With the sharp end of the wire he scratched onto the case: "To Victor in memory of Kalashnikov." He wanted to write something more but there wasn't room.

"Take this," he handed Victor the present. "As a keepsake. If you think of something do it. Skeptics always slander things with loads of doubts."

"You see, " said the laboratory director, "we already have a company of inventors!"

And again there was friendly laughter.

It is time to go. Warm handshakes and then the heavy door of the shop closed behind him for the last time.

Kalashnikov was one of the first to arrive at the train. After he put his duffle bag on a high shelf, he walked along the platform. The station was bathed in warm grey dusk. Like inflamed eyes the headlights looked out of the darkness onto the rifleman. Gradually the crowd became heavier.

It was only ten minutes until train time and Kravchenko wasn't there yet. Kalashnikov wanted to get into the train car, but then gladly he caught sight of Evgeny's greasy kepi moving along in the crowd.

The friends pressed each others hands for a long time. Kravchenko asked in monosyllables if Kalashnikov would eat on the trip, hadn't forgotten anything. Kalashnikov answered that he had everything, that he hadn't forgotten anything. Suddenly he recollected:

"Oh yes, do you remember I told you about the political instructor in our company?"

"The one who was burned in the tank? I remember."

"I wrote him a letter but I haven't had an answer. Will you find out at the institute or at the dormitory if it comes. Send it on to me, okay?"

"Sure."

The station bell sounded loudly twice. Kravchenko said hurriedly:

"Well goodbye. Get on the train."

Kalashnikov held his friend tightly and embraced him.

"Goodby. I wish you luck, old man."

"And you." Kravchenko was silent and then smilingly added: "Don't pay attention to Maxim--hurry!"

Kalashnikov jumped up on the step.

Alongside the platform the cars flashed by gathering speed. It was a long train, it seemed without end. But at last the last car appeared and its bright little lights twinkled in the darkness of its red light as if Kalashnikov were sending and sending his last wishes to the good city of Alma-Ata and to all the people who remained behind him.

Ah, Those Seconds!

A storm came up unexpectedly. Somewhere far off beyond the Nskychny Garden, thunder rolled; it seemed to echo hollowly over the Moscow roofs. A lilac-colored cloud cut off the sun and fell on the asphalt soft from the heat like a stream of water.

The artillery marshal went over to the window and opened the casement wider: he wanted to let a little more of the welcome fresh coolness into the office.

The marshal had a great deal to do. He stood for a while at the window automatically watching the white vessels which far off below were cutting through the grey web of the Moscow river. It seemed as if a steamship was trying to hide from the rain under the arch of the Krymsky Bridge. The marshal looked at his watch and looked over the door: for some reason the officer who'd been ordered to report hadn't appeared.

In the drainage ditches a flood raged. The sharp sound of the water couldn't drown out the ticking of the large clock in the corner. The blows of the pendulum reminded one that the seconds were passing. Ah, those seconds! The pendulum swings--there goes one, it swings again--there goes another. And the minutes, hours, days, months. And so much to do! And so a year has passed since the war ended. It would seem that military comrades would rest. But no! One couldn't bear to have someone follow in Hitler's path. Yes, and the work . . . Everything to study, to plan. Such a colossal push forward in technology has been made since the war, and new horizons are already apparent and there must be planning again, everything must be divided again--from the automatic weapon to . . . From the usual to the very great things.

The marshal returned from his thoughts and again looked at his watch.
Where is that Surikov?

The doorknob clicked loudly.

"With your permission, comrade marshal?" On the threshold stood a lean colonel of the engineers.

"Where have you been?"

"At the door, comrade marshal. You said eleven forty-five. It's just that now . . ."

The marshal looked at his watch and laughed: this hadn't happened to him for a long time--in earlier times he would have become angry. He asked Surikov to sit down and listened attentively to his report, plentifully filled with numbers.

The speech was about one of the samples of a machine gun. In Surikov's section there was a problem with the factory supplier. At the Ensk firing ground they'd waited for two weeks already for the model, but the factory hadn't sent it.

The marshal moved heavily in his armchair. He knew very well how much energy and money was expended in settling the reciprocal requirements of customer and supplier. The design is very good and then the manufacturer cries: it's not ready for mass production. Well and they begin to work things out. They talk, they talk and come to an agreement finally and everything is not enough; from the first thought, you see, there is screaming and shouting."

"Listen, Surikov," the marshal said, frowning. "Don't you think its time for you to come to an agreement with the designers so that from the very beginning you will know what the factories need from them, yes?"

"They think that, comrade marshal. We have beautiful examples of this. Take Degtyarev for example, Goryunov . . ."

"Degtyarev, Goryunov! You can also remind me of Tokarev and Fedorov. You are always just repeating their names to me! I know without your help how they work. But they aren't the only ones you have to work with. Now this current model--its an unfortunate example. More to the point how is your work with the young man?"

"He's somebody, comrade marshal. The proposals come almost every day. The only trouble is they are, so to say, immature flights of fancy."

"Well, what useful promising thing has flown in?" the marshal looked at him mockingly. "Well?"

He got up and walked around the room and sat down again at the desk.

"No, well. With this model I think we'll do it this way. I will hurry off to the factory. You get on the train and travel to Ensk. Stay there until everything is worked out. At the same time keep an eye on the people. There are many talented mature people who work at the firing ground, mature," the marshal stressed the last word and looked askance at Surikov. "For example there's the senior sergeant. Not long ago Colonel Glukov who's director of the invention section came here to talk to me about him. The fellow's not thirty yet and he already has to his credit his own model of an automatic weapon, a carbine and parts of other cleverly worked out pieces for different systems. Haven't you heard about this?"

"I remember. It seems to me that his carbine went through our section. But I forget what his name is."

"You won't know what to do at Ensk," the marshal shrugged his shoulders and turned his attention to some paper letting it be known that the conversation was ended.

Surikov opened the door and hit himself on the forehead: "I remember: Kalashnikov! What the devil, it came right back."

In his room he took out his work notebook from the safe and checked it for mistakes. No, everything was correct: Kalashnikov, senior sergeant with the Ensk firing ground. Then the remark: he suggested a change in a design of the Goryunov machine gun, for which he received two author's certificates, and a plan for a self-charging carbine with a new cartridge case. And there is certification for the carbine. There are even four test models already made. Surikov remembered that his neighbor in the office had been busy with this carbine. Then when was the work finished? It seems that it was an adaption of the Simonov carbine--the senior gunsmith although he had not yet agreed . . .

Surikov stood at the window and thought. He remembered a conversation in the section. Yes, the carbine of the senior sergeant was worth doing. An already tested principle of rotation at the breech block at the moment of locking the barrel was used in it; but the rotation shoulder was made considerably larger than had been done formerly. From this locking mechanism one obtained a very reliable . . . "Yes, the marshal's memory is remarkable," thought Surikov. "How did I get into this queer position? And perhaps, this isn't all lyrics? If this invention is taken as the marshal wishes then the work will never be done. There in the cupboard lie so many undeveloped plans. Yesterday I took one of them and wasted the whole day. Some fool or other copied a Jules Verne design for an electric gun and piled up complicated calculations on it, and I if you please, write him a polite and dutiful report . . ."

The hands on the clock showed half-past four. Surikov recollected: I'm dreaming and I've got work up to my ears. What would the marshal of this command think! They would have agreed over the telephone, not for the first time. Now run write documents, and uncle will work!

Then he remembered that his wife had bought tickets to the theater and

that meant that he must soon throw everything up and take a bus crammed with people home. Surikov banged the desk drawers with such fury that the secretary of the administration director looking into the room shut the door. She decided that there was no hope for having a conversation with the angry colonel right then.

. . . A July day and the leaves of the tall linden trees rustled, the birdsongs modulated in various voices, the children's voices called to one another. From far off, on that side where the test firing grounds were one could hear faint machine gun rounds fired.

"Ah, it was good that I had to come," thought Surikov. He sat down behind the papers. Well the shots are heard; it's just like it was at the front."

The trees parted and before them stood a wooden arch with a red flag on top. A private stood by. He carefully looked at the photograph from the identification, then at Surikov and only after doing this again did he salute: permission to pass.

Surikov ran lightly up the steps of the porch of the red house and knocked on the door marked: "Officer on Duty."

Behind the desk sat the senior technical lieutenant. He immediately got up wanting to do everything according to form, but stopped short. He'd worked with Surikov for many years, called him by his first and middle name and even the insignia on the sleeve couldn't interfere with the years of friendship in his tone. He very tightly pressed the hand of his guest as if to ask the colonel insignia for permission to digress from duty.

Surikov put his suitcase on the table and lit a cigarette with pleasure. The man on duty gave him the local news for several minutes. It seemed that the head of the firing ground had gone to Moscow, but the rest of the local

people were mainly at the test area: Degtyarev had arrived.

"Well then, I'll go out there," Surikov said hurriedly fearing that he wouldn't find Degtyarev. The remarkable weapon maker of the time was not feared for nothing. The work ends and off he goes. Surikov knew this from his previous work--when he'd participated in testing the PPD automatic weapon. At that time their paths had crossed. He had loved Degtyarev, a selfless man like a great master of work to whom he Surikov had given all of his energy and thoughts.

"Well the old man's probably forgotten me," thought Surikov. "With so many people around him he couldn't remember everyone. Yes, they say he's begun to have a few aches and pains. But truly he doesn't give up his work. What a fine fellow!"

Deep in thought, Surikov hadn't noticed that he'd walked through the entire little village. In front of them, enveloped on one side by the edge of the forest, stood the field. Grasshoppers chirped loudly in the reddish dust-covered grass. It was as if they were glad that the machine gun rounds were quiet and they tried to make as much noise as possible.

On the edge of the broad clearing under the ruffled branches of a pine tree a crowd of people were gathered. Three or four men stood around a hand held machine gun, and the rest crowded around Degtyarev. He stood with his feet planted firmly and wiping his hot forehead with a handkerchief smiled.

" . . . Of course, I'm excited," Surikov heard Degtyarev say. "For as many years as I've been and designer lots of these machines have passed through my hands; as they are tested I start to tremble again."

"Really, tell us, comrade general," a master sergeant with reenlistment stripes on his sleeve said doubtfully.

"And you weren't excited when your wife presented you with your seventh daughter?" countered Degtyarev.

There was friendly laughter on all sides. The master sergeant realized that he had put his foot in it. He hung his head in embarrassment. Degtyarev touched the master sergeant on the shoulder, his eyes became serious.

"For a designer, my friend, each of his machines is like his own baby."

The thoughtfulness with which these words were said stopped the laughter. Again one could hear how the grasshoppers chirped in the grass. Surikov looked at a fairly short senior sergeant standing alongside. He kept looking directly at Degtyarev; evidently he wanted to ask something but hadn't made up his mind to do it.

"Comrade general," the senior sergeant said suddenly, "What qualities in your opinion are necessary for a designer-gunsmith?"

Degtyarev turned toward him.

"A gunsmith? Ah then, have you been chosen as a gunsmith, Kalashnikov?"

Surikov pricked up his ears. So this was Kalashnikov! And it seemed that Degtyarev remembered his name. He looked first at Degtyarev then at the questioner, trying not to miss a word. The question was interesting.

"Gunsmiths are made of the same clay as everyone else. So let's simply say: what qualities does a designer need. I think that first of all it's a love of work and persistence. I have spoken more than once of creative fiber. I'll say to you now: this fiber is a love of invention which gives a man no rest. Even in your sleep you see your machine as it would be if it were manufactured, real . . ." Degtyarev paused and looked up toward the top of the pine trees. "I don't know if you can develop this creative fiber. I have felt it since my very earliest years. But as to persistence it is possible and necessary to cultivate it. I discipline myself constantly."

He was silent. No one wanted to break the silence.

A green "Victory" appeared on the road. Degtyarev looked at his watch and walked over to one side with one of the officers--the director of the section. They spoke together quietly and Degtyarev nodded his head approvingly.

Surikov walked over to him. Degtyarev looked at him:

"Look, it's Surikov--my bitterest enemy on the PPD."

"Not really your enemy, Vasily Alekseyevich. That's all past; who remembers the old . . ."

"Yes, that's true--its past. However you shed quite a little of my blood then. You would have been in command if you hadn't written such tricky reproofs. Only you're young and can . . . Ah, yes I see you've already got your colonel's shoulder bars! Fast, fast, quicker than I, apparently, are you being promoted."

"That's because," the section head agreed jokingly. "Those who are in Moscow sit closer to headquarters."

"Well to your health, indeed. It's time for us old folks to have a rest. Now the work is for you." Degtyarev nodded his head and got into the vehicle. "Well, goodbye."

The "Victory" gently pulled out of its place, pressing down the grass, made a turn and dashed off onto the road leaving a trail of grey dust behind it.

"A famous old man," Surikov said squinting from the sun.

"Yes," agreed the section head and after a silence added: "You've arrived again to worry me with this Ural piece?"

Surikov shrugged his shoulders and then said.

"Well, the devil with you. Right now the "jeep" is coming. Let's go to

the section."

They walked over toward the edge of the clearing where the shade of the pine tree offered coolness. Surikov asked:

"Tell me about this Kalashnikov who works here? What about him?"

"You want to know about him?"

"Yes."

"If you need to know in detail you'd better ask Sudayev. They work in the same room. Have you got a cigarette? I'm dying for a smoke."

The Draftsman

The sunset quietly burned down beyond the window of the shop. The rosy light fell on the gold fillet of the frame which hung over the workbench. On the frame there were words printed in large type "Instructions in case of fire." Kalashnikov looked at the frame and swore: Who needs this here, its hung here for a year and no one's found time to read it . . .

Kalashnikov was angry. That day the head of the section had ordered two samples of machine guns whose design Kalashnikov recently had proposed changes in be ready for firing the following morning. This work couldn't be done in a day even if all the men in the shops worked on it. And then toward evening the director himself had called up and said that there would be no firing . . .

The file in Kalashnikov's hands scraped shrilly, as if it complained about being forced to work when the shop was empty and all the other instruments lay quietly in the drawers under the workbenches.

The scrape of the file and the quiet in the shop reminded Kalashnikov of far off Kiev where once in the same kind of solitude in the morning he had smoothed off his instrument, his first invention. How much water had gone under the bridge since then! He'd made something else and had worked on

other articles to improve their design. He'd learned much since then, become familiar with much. Although he hadn't achieved all that much right away it was nevertheless necessary and not stopping he went forward all the time.

The door of the shop opened and Sudayev appeared on the threshold. His late arrival in the shop didn't surprise Kalashnikov. Aleksei Ivanovich Sudayev was that sort of person: he got carried away with his work, and even settled down to sleep at his work bench. He got up early in the morning, ate and again was at work. On one hand you could look at him as a lathe operator with a good record, but then too it would be difficult to find any engineer or gunsmith who was his equal in knowledge.

More than once Kalashnikov had thought how much he had learned from Sudayev. Sudayev had seen service in the last war considerably more than other older designers. A whole collective of young gunsmiths gathered around him at the firing ground. On his advice they constantly studied and analyzed modern weapons, thought about new effective methods of tactical testing. This was new in weapons work.

Kalashnikov was glad of the opportunity to talk with Sudayev. Then Sudayev turned at the door:

"Here he is, Vasily Fomich, Kalashnikov is in his natural state. I've already said if you want to find him after work he's apt to be here."

Behind Sudayev appeared a colonel in a white tunic. His face seemed familiar. Kalashnikov automatically straightened his shirt and smoothed the seams with his hand.

Colonel Surikov (his last name also seemed familiar to Kalashnikov) greeted him politely. Sudayev walked around the shop, banging drawers, and tightened and again turned a vise. It seemed that he already knew about the incident with the director and laughingly advised Kalashnikov not to be angry--such

things happen in work. Then he said goodbye and left.

Surikov invited Kalashnikov to come out into the fresh air. They sat down on a bench fastened to the ground. Surikov took out a box of "Kazbeks" and offered it to Kalashnikov. The latter shook his head: "I don't smoke."

A band of sunset in the west turned from golden rose to crimson. Above it clouds that looked like fantastic castles piled up.

"Splendid!" exclaimed Surikov, "Just like in a fairy tale. Have you come across that fairy tale of Gaus's anywhere?"

"I've come across it," Kalashnikov said quietly.

"You remember that courtyard in Baghdad? It looks just like it."

Surikov pointed toward the sunset and smiled.

"You probably are wondering what's going on. An unknown colonel arrives. First he offers you a smoke then talks about fairy tales. When's he going to get down to business you think. Right?"

"I was thinking."

"I don't have any kind of work for you. I simply wanted to get acquainted. Have you any objection?"

"Please," said Kalashnikov and looked Surikov in the eye. He was beginning to like this lean colonel.

The thread of the conversation directed by Surikov turned easily and naturally to Kalashnikov's work. The conversation went easily: the colonel knew weapons well and caught on to everything in a flash.

The twilight thickened. Kalashnikov suddenly thought it wasn't right to sit so late by the shop where the guard could become anxious.

They got up and walked in the direction of the houses and the faintly twinkling row of lighted windows.

"And in general, comrade colonel the carbine is a work of the past."

"Well, what's for the present and the future?"

Kalashnikov didn't answer for a long time. He picked a leaf from a bush along the road and crushed it with his fingers. An acrid smell assailed his nose.

"I've only an idea, comrade colonel. Only do you think it's worth talking about? The work isn't finished."

"As you wish. I wouldn't force it. I only want to say that it's not bad for you to work on automatics. It's very necessary now. Times have changed, the atom has entered the battlefield. Soldiers need a light and reliable weapon. I know, many designers are thinking about it already. Why shouldn't you get busy on it, eh?" Surikov paused turning his head added: "You have accumulated the experience that will be necessary, it's possible."

The way that Kalashnikov answered him it was difficult to know if he liked the advice or not. But Surikov didn't add anything definite: in the final analysis they were just having a private conversation.

They stopped at the edge of the group of houses: it was time to part. Kalashnikov shook Surikov's hand and couldn't resist asking:

"Comrade colonel, if it's all the same why did you come to me? That I didn't understand."

"Well," Surikov answered embarrassed, "On my job, one, one man reproached me about this. So I am straightening it out," Surikov waved his hand and quickly walked off. His white tunic could be seen for a moment in the thick darkness and then was lost from sight.

The evening air was heavy. Kalashnikov undid the collar of his shirt. He still had a light feeling from his conversation with the colonel. Forgotten was the fatigue from his distressing day in the test area and behind the

metal shop workbench.

He went into the room, switched on the light, and jerkily hurried to the table, took a clean sheet of paper out the drawer and fell into a thoughtful mood. Then quickly he drew the lines of a diagram. There it was, his new idea. The colonel was saying it is necessary . . . It's good when you know what they expect of your work: strength increases and this very persistence that Degtyarev was talking about today. Oh, how necessary that persistence is now!

Kalashnikov not taking his eyes off the drawing, pushed the frame of the window farther open and took off his shirt. He forgot about dinner. He moved the stool and sat down resting his elbows on the table.

His thoughts were these: to create a reliable automatic, compact and light, simple in design. With the new cartridge of the 1943 model which was more powerful than the pistol, but shorter and lighter than the ordinary rifle cartridge with a caliber of 7.62 millimeters. This had made it possible to lighten the weight of the weapon to increase the range of firing in comparison with the existing pistol machine guns.

However the advantages of the design he was thinking about didn't get along with each other and it wouldn't be easy to reconcile them.

Trying to add simplicity to the design, Kalashnikov at first decided to avail himself of the best parts of automatics from the point of view of the principle of their action--strong recoil and recoil spring. Sudayev and Shpagin had acted just this way in creating their automatic weapons. Yes, and Kalashnikov himself had used this same principle in creating his first model. In the work itself there was nothing simpler than the breech block which is thrown back from the recoil. With this movement it extracted the firing cartridge case from the cartridge, squeezed the recoil spring. And

then the spring, releasing pushed the breech block forward. It grabbed the new cartridge and fed it into the cartridge chamber, then the firing pin struck along the capsule of the cartridge and resulted in firing. That in essence is the entire mechanism.

That was how it was for the pistol cartridge. But the 1943 cartridge had such a strong recoil that it could only be held by a heavy massive breech block. The increased dimensions of the breech block increased the receiver, and increased the weight of the automatic weapon. Recently Kalashnikov had checked the calculation several times thinking that there was a mistake. But no, everything seemed to be correct. He would have to repudiate the old principle.

And what to take on instead? He could adopt another principle: part of the gunpower gases which form during firing, could go through an opening in the barrel in the cylinder with the piston, but the piston is connected to the breech block using a special part--a breech block carrier. During firing when the bullet proceeds through the opening in the barrel the gases press on the piston and the breech block goes forward. It moves the firing cartridge case, takes a new cartridge and moves it into the cartridge chamber . . .

"The breech block carrier and the breech block," Kalashnikov whispered quietly, thinking. "But how to connect them?" He wrinkled his forehead, going over various possibilities in his mind. He remembered that in the hand DP machine gun the rod of the gas piston and the breech block carrier were connected rigidly, tightly. Then with powerful rifle cartridges, which were fired by the machine gun, and the long rod this isn't bad. The mass of moving parts is great, and the automatic weapon operates evenly and reliably. But the cartridge power of the 1943 model which the new automatic must shoot is less. The energy of gunpowder gases cannot be retained so that they can move the

moving parts as in the DP . . . But if that were possible? . . .

The dark night could be seen through the window. A weak breeze came into the room and rustled the pages of drawings. Sometimes sheets fell to the floor. Kalashnikov didn't pick them up: he was involved in other things. Again feeling the importance of his work he again and again returned to the source of his thinking, searching out weak points. He already knew well that the correctly selected principle of action of an automatic weapon predetermines the military qualities of a weapon model being developed. The weight of the automatic weapon and the simplicity of its design and many other factors depend on this.

His pencil flew over the paper. The lead broke from the strong pressure and Kalashnikov violently grabbed another pencil. He was afraid that the ideas flashing through his head like lightning would be lost. An extraordinary idea came: the drive of the breech block frame should be made short and needs a short breech block. Advantageous? The drive of the part is small,--that means the entire automatic takes up little space. The short breech block will mean a small breech.

Kalashnikov, having found an adequate solution smiled. He raised his head and looked out the window. The darkness had gradually thinned, being replaced by a grey pre-light haze. He didn't want to sleep. He erased a line of the sketch and again drew his thought-out diagram. The results were good: the total length of the automatic would be smaller.

There was a deep quiet all around. When Kalashnikov lay down on the bed, it seemed to him that the scrape of a spring could be heard on a far off square. He imagined it shrouded in grey fog. Dew on the grass, somewhere a nightbird sings, the forest is quiet, not stirring . . . His spirits became

lighter with these thoughts, pacified by the sweet fatigue of creation. Sleep reached out its soft hand, moved, entangled the cries of the nightbirds, the lines of the drawings, the rosy clouds of the sunset and carried all of this farther, farther . . .

The work-filled days passed so quickly that Kalashnikov was astonished each time that it was Sunday: it was as if the weeks had become shorter. In spite of his daytime work he worked far into the night and the development of the automatic moved forward quickly. It had already become clear that his idea would permit creating a new model, different in principle from that which had been made in the past by our designers.

Having specified the final basic system, Kalashnikov busied himself with the design of the separate mechanisms. The locking system was easy: with pleasure he made it just as he had for a carbine developed by him earlier. But it was new, coming out of research he had done before. The heavy breech frame and the light breech block shell. This would give the automatic a smooth operation. Loss from impact and friction would be not great: Kalashnikov had cut down the working surfaces to a minimum and in non-working places large gaps remained.

Gradually on the white Whatman paper the contours of the automatic were drawn more and more clearly. If only the job of the designer was just to work out the basic idea! The melody is not always the whole song. It is necessary to write parts for the first and second voices, to try to grasp the sound of each note of the accompaniment. Thus it is with a weapon. The general composition is only the beginning. It is necessary to work out precisely each detail and this is a large job--and to attain harmonious action of the parts. Kalashnikov's pencils became his standard of time: many of them,

hard and soft, turned into stubs which were too short to hold in his hand. His erasers disappeared it seemed with unparalleled speed: he hardly began to use a new one just soaked in kerosene for softness on his paper when there was nothing left but a tiny grey pellet--witness to how many time he changed the parts of the design . . .

After work Kalashnikov often thought about Leningrad, the factory, the technologist Palin. How much that man had helped his science! In truth before that Kalashnikov had perceived the basic secrets of engineering sciences, but the beginning was really when Palin gave him the bulky books on and the technology of metals. Now, if you please, Kalashnikov could compete in knowledge with any student. Well, maybe not with graduates but certainly with third year students. They knew about things in textbooks piled up in a corner at home. On their pages often there were question marks--not clear. But almost everything they circled in red he worked out. Otherwise he would hardly have been able now to work so profitably on the automatic.

And talent? Degtyarev had said it was necessary to have love of work and persistence. About the love he had said that's one thing, but the persistence must actually be cultivated. When some people end up in a blind alley they give up. But you must restrain yourself, do everything from the beginning again a hundred times--and you will see the work go forward. Some kind of device, or innovation can be thought of by anyone who is involved in engineering. But to perfect the work for the purpose of a design, so that everything is better from beginning to end,--that is not something that everyone can do. The one who can, he is the designer.

Good Luck!

In the field surrounding the firing ground, August rocked the ripe heads

of grain. The first yellow leaves had appeared in the forest. The birds busy with preparations for flying south were silent; in the air were heard only the sounds of machine gun and rifle fire.

Kalashnikov had become worried. The work with the automatic project had progressed but more and more often he noticed factory crews on the firing ground were testing models, which were not complete in his opinion, of heretofore unknown models of automatics. It seemed that unknown to him he'd been competing with many people who were also busy creating new weapons for the army.

In the morning, one of the first breakfasters in the dining room, he hurriedly walked to the building where the draftsmen worked, turned over the Whatman's paper and took up his pencil.

One of his coworkers came into the room. They were used to having Kalashnikov here--they all gave him the local news as if he were an old colleague. He answered in monosyllables, trying not to be distracted. Only when work was in full swing for the day, when it suddenly had become clear that the next part was ready, did he become animated. And then not for long. Soon he would drag one of the other engineers or test operators to the table: "Criticize it!"

They didn't just visit around Kalashnikov's drawing boards--engineers Demin, Bystrov, and Kochetkov, designers Afanasev and Kuzin--everything was reread.

The day passed, another, and he led the "critics" in turn to the drafting table. And you would see some kind of inadequacy disappear or a new advantage in the design appear.

And so for the present he didn't get down to work on the units and parts. If he had not worked in the engineering sciences in recent years it would have

been beyond his capability to do the calculations alone. And without them the project would not be a project. The diagram apart, that was half the work. It was necessary to show in figures what the pressure of the gunpowder gases would be. And here again he called on the help of his comrades. One day, the tall figure of good-natured engineer Kanel appeared alongside Kalashnikov. A few words--and together they drew up a column of figures.

After one such "joint sitting " he made a comment about one of the draftsmen who worked not far from Kalashnikov:

"I see you have to put up with that fellow, Mikhail Timofeyevich!"

Kalashnikov raised his head:

"What are you talking about?"

"About your work. We'll soon be a legend on the firing ground. This Burtsev, the engineer, especially tries this. He came here yesterday when you weren't here and was saying all kinds of things: you're a dreamer he says, even a smatterer."

"I noticed that he didn't like me much."

"Not only you. He can't stand any of the inventors. He himself didn't make it and he's angry."

"He's worked on this?" Kalashnikov pointed at his drawing with the square.

"He's worked on it a lot. He only wrote more such complaints. I understand that before you arrived here, he proposed some kind of device for exploding mines. They gave him money and assistants. For six months and then nothing. It became clear that the pieces which Burtsev finally constructed were not as good as the ones already used," the draftsman laughed, "Then he wrote a hundred complaints that he was overlooked. So that was how his invention ended."

The engineer came into the room and the conversation ended.

Kalashnikov wasn't able to continue the conversation with the draftsman that day or the following. Directed by the experienced hand of Kanel, he quickly completed the calculations. And in the office, days turned into weeks.

With the first fall frosts began the anxious period of waiting: the completed plan for the automatic weapon had been wrapped in a packet, sealed with sealing wax and sent off to Moscow.

Once Surikov arrived and joyfully reported that everything was going well. It was impossible to get any details out of him. He laughed and said he didn't want to interfere with the natural course of events.

When Kalashnikov received an envelope in the office he couldn't decide to open it for a long time. The letter wasn't too long, and there were few words: the draft along with several others had received a high evaluation; it had been decided to manufacture a prototype and test it.

Manufacture and test! Manufacture and test! It seemed that his heart wouldn't stop thumping. Was it really true that the drawing which had become so familiar and dear to him would actually become real?

In the days remaining before his departure, Kalashnikov went into the shops, went over the parts of his carbine. And as he stood there with the parts in his hand engineer-colonel Demin came up to the workbench. They had often worked together earlier (Demin was one of the chief "critics" of the automatic), but he hadn't seen him in recent weeks.

"Well, to your health! Demin began in a joking tone. "The project is approved, one could say it got an excellent grade, and you're worrying about everything."

"Approval is only half the work, you know that, Vladimir Sergeyevich."

"True," agreed Demin. An experienced gunsmith, through whose hands many models had gone, he knew very well how many turns there were in the road from successfully drawn drafts until the soldier holds the new lubricated weapon glistening with enamel in his hands.

"I've been thinking over the work," said Kalashnikov. "This for example is it too coarse? Look at it."

Demin took the part in his hands.

"Coarse? In my opinion it's too sleek, if a speck of dust drops the machine goes on strike. How much dust there is in combat! You know yourself. Yes, and for production the coarser the cheaper. But it's well known the better the work the more precisely the mechanism will work. Well, you the designer have to find the golden mean."

Having remembered something Demin got up and went out. Kalashnikov took a rod from the workbench and turning toward the light began to measure the part. Suddenly he felt there was someone standing behind him. He turned quickly and saw Burtsev, the one the draftsman had been talking about. He glanced sidelong at the door and almost in a whisper said:

"You're conducting yourself in an imprudent way."

"About what?"

"I heard what you were talking about with Demin just now . . . Inventions must be done alone, and you go around dispensing ideas right and left . . ."

Kalashnikov recoiled. Such ideas? Couldn't find an answer. A feeling of disgust which the man standing in front of him aroused gripped his throat:

"Aren't you ashamed?"

"Ashamed!" smirked Burtsev knitting his reddish eyebrows. "I've come to

know about you. In no time you have stolen all my proposals . . . What are you staring at? They help you! Soon you'll turn up your nose at Edison."

Kalashnikov turned sharply, letting it be understood that he didn't want to converse any more. Burtsev stamped around and went out . . .

On another day Kalashnikov found out that Demin had been named as the head engineer for the automatic weapon. When they met in the shop as participants in one job, Kalashnikov began to discuss the drawings with him in a particularly loud voice, looking to where Burtsev was standing not far off. And seeing what a fearful look he gave him, the young designer rejoiced.

He went along to the factory. Everyone he met in management was affable, all his requests were met without delay.

An entire crew worked on the drawings. Besides the author of the project several factory designers were involved with it. One of these was Zaytsev, a young energetic engineer whom Kalashnikov especially liked. He liked the way that he cleverly solved complex technical problems.

Demin arrived and the work went more quickly. Demin's knowledge and experience were very welcome because from the very beginning of manufacture certain changes could be made in the working drawings for the project. This would be important when the manufactured automatic would first "speak" loudly at the shooting range.

It seemed that this would be a very festive day. However things worked out otherwise. Here, at the factory the appearance of the model--this was only the first stage of work completed, so to speak the "live model" for the first sample afterward there would be a second and a third. . .

And then the day came when Kalashnikov found out that in principle of reliability and feasibility of parts, four models had been chosen and one of

them was his, Kalashnikov actually celebrated although it wasn't a holiday. He simply tightly gripped the hands of his comrades and they went on to discuss further work. The main thing that was needed now was to make the parts and units as close as possible to the real thing, and a completed model to put into competition so that in the next comparative tests it would be the champion.

"Well, and what kind of changes do you want to begin with, comrade designer?" Demin asked.

"I think with the trigger mechanism. Also the firing pin isn't just right. We can get it better . . ." Kalashnikov took a piece of paper out of his pocket and showed it.

"Correct," said Demin. "Well, and I have an idea . . ."

Zaytsev came up behind them and looked over Demin's shoulder.

"Of course, that's just right. Go to the bureau, Vladimir Sergeyevich, we will strip it down. There's not much time."

It was already dark outside the windows. Kalashnikov looked after them and took a tool from the box. He'd also wanted to work on the trigger mechanism . . .

When the next test model was fired at the factory shooting ground, Zaytsev shouted:

"I officially announce the arrival of a 'new epoch'!"

Everybody knew he had the young designer in mind and laughed. If the automatic weapon which he held in his hands were put alongside the best, no one could say that they were "relatives." Even the exterior of the model was not similar.

"Wait for the rejoicing," said Kalashnikov. "What else will the firing ground show? It's better to pack our suitcases."

"True," agreed Zaytsev. "And I wish you hunters good luck. All right?"

People appeared early in the morning on the shooting range of the firing ground. Among the grey officers and soldiers overcoats, and black coats, the bright general's stripes on service caps stood out.

The command was given. Only the testers remained on the line of fire.

A dirty grey cloud covered the ground. In the storm, tired of waiting for the snow, rare drops of belated rain fell on the grass. No one noticed them: the shots rang out.

To the right, one of the automatic weapons jumped. A red cheeked fellow in a green quilted jacket who was firing it looked around. His comrades ran to him and one of the commission members went over. The automatic was placed on a table and they began hurriedly to look for the reason for the failure.

The shots ceased. Commission members went over to the targets. While they were adding them up, Kalashnikov with his face pale and pinched went over to Demin. Demin smiled:

"The first waffle's never any good."

"Let's see what's next."

Zaytsev appeared from somewhere. He made a mysterious gesture and whispered:

"I reconnoitered. Our machine is the lightest--that's one thing. In the second place the one's who were holding first place have lost hope.

"You're just like Sinyavsky," Kalashnikov laughed, "Giving us reports on the competition."

"Well," said Zaytsev offended, "Objective knowledge of the circumstances

is always necessary."

The command was given again and again the shots rapped out. Rain fell more strongly, then unexpectedly stopped. In the air was the smell of fallen leaves and gunpowder. The stressful atmosphere of the first minutes of the testing lightened: people talked more loudly, moved in a businesslike way from place to place, smoked. Surikov came up to Demin. His overcoat was unfastened, his eyes were shining.

"You know, Vladimir Sergeyevich, now this isn't for official announcement, why I support Kalashnikov. You don't know why I wanted his machine to be shown from its best side?"

"Personal friendship. And then possibly he bribed you. I heard that last summer you and Kalashnikov were talking secretly about something." Demin winked slyly and burst out laughing.

Surikov also began to laugh, but choked on the smoke from his cigarette and began to cough.

"Anyway," he was hardly able to say, still coughing, "Knock on wood, everything's still going normally."

"It's still too early to say," answered Demin. "I know very well that the commission will be especially careful to find out how the machine will operate after its actual use."

"Well, what would you expect? We aren't talking about some jeweler's articles. A designer must construct a weapon so that the soldiers can look through the scope and begin to lay fire immediately. And then when a speck of dust falls on the breech block--if you please, instead of an attack in the weapon shop one must run, eliminate delay . . ."

Kalashnikov, standing at the firing line, didn't hear these words but

he was thinking about the same thing. The automatic worked well. True there was a little unevenness in the operation of the trigger mechanism, and he didn't quite like the extractor action, but on the whole it was the later stages of testing that were a worry. The new model must answer modern conditions of battle. This means that it's necessary to test it not only for viability and grouping in battle, but also to look at how it behaves in heat and cold; its capability to hold up with thousands of shots after it is buried in several kilograms of finely ground sand and submerged in water; and if it will operate reliably if it's thrown let's say with all one's might on a cement floor.

The days passed. The experimental automatics were tested for viability. For this they were fired in a single round like a rifle and automatically. Often this was done without cleaning the weapon--emptying magazine after magazine, firing bullets by the hundreds and by the thousands. And Kalashnikov's automatic kept on firing! Its parts were strong and didn't break. The maintenance was simple and easy. If a soldier in a combat situation couldn't clean his new weapon for several days it would still fire. This is a big step forward in comparison with models which had existed formerly in the Soviet Union and abroad.

After a week Surikov, looking at the hot rifle parts after they were fired exclaimed:

"Well, you devils, what an automatic you've made?!"

"We labored, comrade engineer colonel," Zaytsev waved his arms. "Our designer was never satisfied with the bad decision," he made a ceremonious bow in the direction of Kalashnikov and was silent.

Kalashnikov looked with shining eyes at Surikov and said nothing. Never had he been a fault-finding designer.

"Alexander Nikolayevich, Alexander Nikolayevich!" called Surikov to an officer standing nearby. "Do you see what we've attained here. And do you remember what the beginning of the project was?"

The officer whom he had called Alexander Nikolayevich, took the extractor in his hands and quietly laid it on the table.

"What are you trying to persuade me of, Surikov? I've already seen the commission's report: Kalashnikov's automatic is recognized as the best."

"Aha, what did I tell you?!" shouted Zaytsev. He ran up to Kalashnikov and embraced him so tightly that his feet even came off the ground. The metalsmith smiled, and Demin took off his right glove and put it back on again.

There was no orchestra playing anywhere, no flags or speeches, but in the heart of each of them was heard a festive hymn because victory had arrived. It happened just as it would have in war--not in white starched uniforms, not with the sounds of gold trumpets. It came to men tired, covered with rifle oil and alkali, smelling of gunpowder. The simple working victory--the very dearest for people who know their real work in life and what service to this work means.

This is Happiness

"How many men participated in the creation of just this one model of an automatic submachine gun?" thought Kalashnikov, looking at the dark branches of fir trees as they flashed past the train window. "First there were two: Kravchenko and I. No, more than that: the infantryman in the back of the lorry, the wounded in the hospital, Koptev and the secretary of the Central Committee and of course, Zolotov. Yes, yes, all these people took part in creating the automatic. Then there were Kazakov, Victor, all of them who worked in the shop at the institute. At the firing ground there

were Sudayev, Demin, Bystrov, Zaytsev and many others. Vladimir Vasilevich Glukhov --the director of the invention section, made a great contribution and without his tutelage and participation hardly any of the work would have moved. And how about the marshal of artillery? How many warm words are heard from him, how much help his authority as an important military leader gave me! How many is that . . . And then? Besides there were all those who contributed their ideas and spirit to the submachine gun when the first batch was being made for military testing! The tests are already run and I the author of the instrument soon will meet with the soldiers and officers. What will these new critics and probable keepers of the weapon say?"

Outside the window the switchman's cabin passed, bushes flashed by and the station appeared. Behind the barrier stood carts waiting while the train went by.

The conductor looked into the sleeping compartment:

"You, comrades, it seems to me asked for this station? Here we are."

Kalashnikov dressed quickly, took his suitcase and went out onto the platform.

In a moment the train stopped.

On the station platform an infantry captain walked up to Kalashnikov.

"You'll be the designer Kalashnikov?"

"I am," Kalashnikov answered somewhat embarrassed. He somehow wasn't used to the word "Designer" applied to him.

"Please, to the vehicle."

The GAZ cross-country vehicle sped along over the spring road.

The captain reported joyfully:

"What you've done for our units! The artillery marshal has arrived. He stayed on the firing range all morning, looking to see how your weapon works."

"Well, how was it?"

The words of the captain made it hard to understand how the work had been going, but Kalashnikov didn't try to find out. News of his coming encounter with the marshal disturbed him, and he didn't want to talk. He leaned in the corner of the wood cab and was silent. He remembered the vestibule of the hospital and Zolotov lying on the stretcher. Why had he never answered his letters? He didn't want to find out that Zolotov had died from his wounds. Oh, if he were only beside him right now. How he would have liked to report about the work that he'd done that he, Kalashnikov, had taken on there in the hospital, that it was almost done. To report this to him not only because he was a dear person in his memory but also because Zolotov had been a witness to his second birth . . .

Second birth? The words mixed in his thoughts and struck him by their combination. Second . . . yes, the second. A man is born essentially twice. The first time in his natural birth, and the second time as the master of his work on earth.

"Well, here's our garrison," the captain said, gaily.

"What?"

"I say, this is our garrison. We've arrived. Do you want to go directly to see the marshal or what?"

"No, I'd better stop a minute and leave my suitcase somewhere."

"I'll leave your suitcase with the man on duty," the captain said and tapped the driver on the shoulder. "Stop at headquarters."

"You've arrived a little early," the man on duty announced sympathetically. "The firing is just finished. The marshal is looking over the auto-park. Come with me, comrade designer, and rest a little from the trip."

Kalashnikov followed the duty officer into a clean room, whose walls for some reason were almost completely covered with geography maps. One could hear the ticking of the clock, and Kalashnikov to speed up time began to look at one of the maps. His thoughts which were on his machine, returned again and he slowly squinted his eye at the brown points on the map which always remained in his memory.

The many on duty came in from somewhere and breathlessly announced:

"It's time, they've already assembled."

Kalashnikov went out onto the drill ground. The level endless ranks were made up of several companies of a rifle regiment.

Forward, in front of the building, stood a group of officers and generals. The tall figure of the marshal of artillery towered over the rest by almost a whole head. Nervous, Kalashnikov walked in the direction of this group. It seemed to him that he was being fixed with the stares of hundreds of eyes. In front he noticed Surikov and breathed more easily: at least there was one familiar person.

"And here is the cause for our celebration!" he heard the voice of the marshal of artillery. "Hello, hello, Comrade Kalashnikov. A great fellow! I just saw your creation in action. It deserves high praise."

Kalashnikov reddened and tightly gripped the hand of the marshal. The marshal delayed a second, stepped forward and said:

"Comrade soldiers, sergeants and officers! I want to congratulate you on testing the new small arms model. You've had the opportunity to make sure of its qualities. Combat equipment develops quickly. Those who try to kindle the fire of a new war, always try to have weapons that are the most modern. And we must not fall behind. We must always be in front because that is our

chosen duty--to firmly protect the peace.

"The atom and the rocket have come onto the battlefield. But the importance of small arms is not abated nor has it lost its importance. It mainly remains as the most massive and widely used. When one feels that it possesses perfection, then love it as a mother loves a son and it will never let you down.

"Our army is undefeated because we soldiers,--flesh and blood of the people, who created for you military equipment and weapons,--have talented natures, skillful, which will always make our Russian land famous.

"And just now we have done the first testing under military conditions of the new automatic submachine gun system of Kalashnikov. The man who created it began the war as a sergeant. He was a driver mechanic and tank commander, bravely fought the enemy and was wounded. And even then found the possibility of remaining on duty. As a result of his selfless work the automatic submachine gun has appeared; we have received it now and it was considered better than any of those created by professional designers. And here you have a graphic example of what will and persistence means when moving toward a goal. When things get difficult take as an example men like these! . . ."

The ranks of men roared. Kalashnikov looked at the marshal of artillery and felt how the red embarrassment spread over his face. But the marshal smiled and continued:

"By the way, here is the designer of the automatic submachine gun. This is he." The marshal clapped Kalashnikov on the shoulder. The marshal had to lean down because there was such a difference in their heights. "Can everyone see?"

Again a roar from the ranks.

"Aha, he can't be seen on the flanks. Well, now look, if you please." And the marshal quickly grabbed Kalashnikov under the elbows and lifted him off the ground.

Kalashnikov was taken aback for a second but quickly regained himself.

The marshal invited everyone to come forward. At first shyly then more boldly the soldiers began to talk. The first to come forward was a smartly dressed obviously efficient lieutenant. He spoke loudly, precisely, as if he were at a meeting. He took up the new weapon and asked a question: wouldn't it be possible to make the sound of the firing quieter?

"I fired the automatic," said the officer, "And noted that there was a ringing in my ears the rest of the day. Do you soldiers agree?" Everyone supported him and one jovial fellow noted that after the firing not even the command to go to dinner could be heard.

The noise of approval and laughter greeted the last words of the lieutenant. The marshal turned to Kalashnikov:

"You see how it is. Record it, record it. Remember it. It is necessary to consider the remarks. Not being able to make out the command for dinner that is nothing, comrades. But in battle all commands must be heard!"

During the question period a rosy-cheeked giant spoke with a Ukrainian accent:

"The automatic submachine gun is very good, but I only want to mention two details: at the opening of the handle the commander noticed rust. Is there any way to eliminate that?"

"Truly," the next one supported. "And the trigger mechanism should be looked into, it should be made collapsible . . ."

"And the extractor should be double checked, yes and even hold your hat so that the parts don't fly away . . ."

The setting sun had already painted the clouds with a rosy color when this interesting and also important "technical conference" for Kalashnikov ended. The marshall wished the designer success and expressed the hope that all the comments on defects would be corrected in a short time.

Kalashnikov didn't go to sleep for a long time. He sat at the desk in the room assigned to him with clean white curtains and precisely made soldier's bed, leafed through the pages of a notebook, and reread the notes. The comments of the soldiers and officers pleased him and took him aback.

He got up and walked around the room. Well, he was ready for further work. It was the most important thing in his life. "If you do it," he thought, "It can be improved--the best. There is no limit on perfection, as there is no limit on the efforts of man to attain it. And to travel along this road, in truth, that is happiness!"

The days passed, the years passed.

A colonel tankist was travelling one winter in a Moscow metro train. It was midday, the flow of travellers was not so heavy and the car was spacious. The colonel for some reason didn't sit down on the brown leather seat, he stood, straight and serious. The passengers looked at him with respect: the weatherbeaten eyebrowless face of the colonel was entirely covered with scars and marks of plastic surgery. And because the insignia on his military overcoat was that of armored tank soldiers, it was completely reasonable to suppose that he had received burns during the war, in a burning tank. The passengers also noted that the tankman several times looked attentively at a rather short man standing at the opposite door wearing a winter overcoat and

hat. And this same man also looked attentively at the colonel whose face was covered with scars, and at the bright red hair showing from under the papakha [tall Caucasian hat].

The short man got off the car at the Myakovsky square. The colonel followed him. They stopped at a silver column with an arrow pointing to the mosaic panel on the ceiling and looked at each other. This continued for several seconds. Then the man in the winter coat softly asked:

"Is your name Zolotov?"

"And are you Kalashnikov?" came the reply.

The man on duty at the station saw how the colonel and the man in the winter overcoat embraced tightly and kissed. Then, talking excitedly, they went toward the escalator and went up above.

Frost had hit the December slush which had been standing for several days. The wind blew white grainy powder along the asphalt. Zolotov endlessly repeated:

"What a meeting, what a meeting! Imagine we've met!"

"I looked for you, wrote to the hospital, they answered me, you'd left. And I always wondered . . ." said Kalashnikov.

"Dead! No, brother, no such thing . . . I'm still alive. They drowned in water, burned in fire, but you can't take us with bare hands. You didn't find me because of the confusion at the hospital. I truly had given up my spirit to God, they put me on a plane and sent me to a famous professor at Tashkent. You see, they cured me. But now I'll let you go!"

"No, no. I have to catch a train in about two hours," Kalashnikov said embarrassedly.

"Well, you devil! You're not local then like me? It's just like in a novel: they meet and then there you are, it's goodbye."

They took a taxi glistening with green paint. The machine took them along Sadovaya, turned at the Nove-Arbatsky Bridge and stopped by the entrance to the "Ukraine" Hotel.

When they were in his room Kalashnikov took off his coat and Zolotov said loudly:

"Aha, I was right. You did get the State Prize in 1949."

"Yes."

"For the AK automatic submachine gun--you?"

"I did."

"And you received a medal as Hero of Socialist Work in 1958, yes?"

"Yes."

"You're telling me now what I thought all along. It was written in the papers and I felt that it must be you our Armenian inventor. My wife says it's a common name. But I felt in my heart it's you, it's you . . ." Zolotov again embraced Kalashnikov tightly. "I congratulate you. You've justified my hopes and the hopes of Volod'ka Malyshev. Do you remember him?"

"I remember . . ."

There was silence in the room.

"Well, and how have you lived all this time?" asked Kalashnikov finally.

"I," said Zolotov rousing himself, "Okay, well, I've lived I think with some sense. Do you know who I saw the other day? Serezha Malyshev!"

"His son?"

"Yes. He's here in Moscow. He studies at the university. He's grown very tall. He's even grown a mustache. Mathematics. He says he'll work with cybernetics and computers. You see, he's travelled a different road from his father. And his mother, Valya, is still living in the same old place

she doesn't want to leave there. . ."

They talked for more than an hour--excitedly, joyfully, interrupting each other. Then Kalashnikov looked at his watch. "It's time."

"You're in a hurry?" sighed Zolotov and laughed. "You were always in a hurry."

"And aren't you, too?"

"Yes, I too, I also leave tomorrow. Let's exchange addresses and write."

They walked over to the window. From the height of the twelfth floor there was a distant view of Moscow. In the frosty smoke one could see new buildings going up. And right by the hotel also the metallic hands of a tower crane moved, building a house.

"Oh how one has to hurry," Kalashnikov said thoughtfully. "We can take an example from this capital. Life flies forward, ever forward and how much work there is all around us!"

"Yes," agreed Zolotov. "You're right. Let's be off."



TABLE OF CONTENTS

Part One	3
An Announcement for the District	3
Hours in Combat	12
Kiev Chestnuts	20
The Factory Whistle Blows	31
Light Nights	40
Friends Meet	47
Part Two	58
The Main Thing--To Stand	58
Campfires	64
The Volleys on the Outskirts	71
A Ward of Hospital Squabblers	82
Frosty Sun	91
An Old Friend	104
State Work	113
Part Three	125
The Letter	125
A Cartridge Case as a Keepsake	135
Ah, Those Seconds!	140
The Draftsman	148
Good Luck!	156
This is Happiness	166